

A Forrester Total Economic
Impact™ Study
Commissioned By
Cisco

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May 2016

The Total Economic Impact™ Of Cisco ONE Software

Cost Savings And Business Benefits
Enabled By Cisco ONE Software

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Executive Summary

Cisco commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Cisco ONE Software. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Cisco ONE Software on their organizations through “better together” pricing for Cisco software packages, simpler procurement processes, standardized management tools, access to ongoing Innovation, and license Portability to help reduce IT management time and improve employee performance.

To better understand the benefits, costs, and risks associated with Cisco ONE Software, Forrester interviewed a leading customer, a global management consulting firm with years of experience with Cisco products and in its first year with Cisco ONE Software for WAN. Cisco ONE Software is Cisco’s new software model that provides license portability when new router hardware is purchased, access to new innovation via major software updates, and a reduced license costs. Cisco ONE Software includes a software support fee that enables these benefits.

Prior to Cisco ONE Software, the customer’s network infrastructure included Cisco routers — mostly in the 2800 and 2900 line. With its history with Cisco and a close relationship, the organization held off replacing routers about two years beyond its normal hardware refresh cycle. It wanted to update its router hardware capabilities and take advantage of Cisco ONE Software’s prices and enable new benefits at the same time. An enterprise architect at the organization said, “As a part of this refresh, we are able to deliver network optimization to every location, so everyone is treated the same.”

CISCO GENERATES SIGNIFICANT COST SAVINGS

The interview with the customer and subsequent financial analysis found that the interviewed organization estimates a 365% ROI over the 10-year analysis timeframe. Other results are shown in Figure 1. (Forrester risk-adjusts cost and benefit metrics to take into account the potential uncertainty of estimates. For more information, see the section on Risks.)

The analysis of the organization’s upgrade and ongoing management of new Cisco routers licensed through Cisco ONE Software (versus not licensing with Cisco ONE Software) points to a net present value (NPV) of more than \$606,000. Cisco ONE Software for WAN helped the organization standardize its networking hardware, software and management processes and enable better performance in many branch offices. The organization reduced or avoided annual networking license costs, improved IT networking administrator productivity, helped reduce employee issues that blocked task completion, and reduced its data center footprint.

Cisco ONE Software can help save costs and enable better outcomes through:

- Reduced software costs with “better together” pricing and license portability.
- Standardized procurement and IT infrastructure management processes.
- Access to ongoing innovation, which enables broader and newer technologies, better network performance, and higher productivity.

FIGURE 1

Financial Summary Showing 10-Year Risk-Adjusted Results

ROI:
365%

NPV
\$606,990

IT resources:
▼ 0.5 FTE

Data center space:
▼ 400,000 sq. ft.

Source: Forrester Research, Inc.

› **Benefits.** The interviewed organization experienced the following risk-adjusted benefits:

- **Reduced or avoided router license costs.** With Cisco ONE Software, the organization was able to reduce or avoid software license costs in three ways:
 - Cisco ONE Software provides customers “better together” pricing, where subscribers have access to reduced router software prices compared to other non-Cisco ONE Software license options for the same hardware. The organization purchased new Cisco 4331 and 4351 routers with Cisco ONE Software for WAN Foundation and WAN Collaboration, for a total of \$88,825 savings in the initial investment.
 - Cisco ONE Software’s access to ongoing innovation allows the organization to deploy new software updates with no additional license cost. The organization planned to invest in software upgrades for a few critical locations and can now avoid that expense of \$45,390 in Year 5 and \$37,825 in Year 6.
 - Cisco ONE Software’s license portability feature means the organization can transfer software licenses to new routers in the future. It plans a nine-year router refresh; therefore, in the year that the organization invests in new routers, it only needs to pay for new hardware, saving \$292,655 in Year 10.
- **Reduced server costs.** Cisco ONE Software, by helping enable corporate-wide standardized router upgrades, also enabled the organization to replace a number of application servers with cost-effective blade servers that are installed in the router casing. These blade servers cost about \$1,500 less per server, for a total savings of more than \$78,375 in each router hardware refresh year.
- **Reduced router resource management costs.** While the IT team supporting the network environment was already small, the standardization enabled by Cisco ONE Software enabled the organization to reallocate about one-half a full-time equivalent (FTE) to other IT tasks, saving \$54,000 per year on networking resource costs.
- **Improved employee performance.** The improved networking enabled by Cisco ONE Software is now standard in all offices. Therefore, improved performance and reduced downtime result in an overall reduction in issues that might have blocked or delayed tasks in the past. This is estimated at \$15,775 in productivity savings per year.
- **Network data center space reduced by 400,000 square feet.** While we did not measure this financially (as network space reductions were influenced by other initiatives), the organization reduced its data center footprint by a significant amount (as a cumulative total across all offices). It did this in part by installing blade servers within the router hardware instead of in a separate box. This space is being repurposed for meeting room and collaboration areas.

› **Costs.** The interviewed organization experienced the following risk-adjusted costs:

- **Cisco ONE Software support fees of \$11,701 per year.** Cisco ONE Software requires customers to pay a software support fee per software unit that enables the organization to gain access to Cisco ONE Software features such as access to ongoing innovation and license portability.
- **Resource costs of \$15,900 during the initial investment period, and then \$9,953 to \$13,270 per year.** The project consumed some IT resources during initial implementation. The hardware and software refreshes will also require IT resource time, mainly in years 4, 5, and 10. The new hardware and software delivers some net-new functionality, such as increased automation. The organization has invested some additional management and monitoring task time that the networking team wouldn’t have done before. But overall, Cisco ONE Software’s standardized networking infrastructure reduced overall IT resource costs significantly to realize the benefits from this new functionality.

Disclosures

The reader should be aware of the following:

- › The study is commissioned by Cisco 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 Cisco ONE Software.
- › Cisco 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.
- › Cisco provided the customer name for the interview but did not participate.

TEI Framework And Methodology

INTRODUCTION

From the information provided in the interview, Forrester has constructed a Total Economic Impact (TEI) framework for organizations considering Cisco and/or making a change to Cisco ONE Software. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect this decision, to help organizations understand how to take advantage of benefits and improve the overall business goals of winning, serving, and retaining customers (see Figure 2).

APPROACH AND METHODOLOGY

Forrester took a multistep approach to evaluate the impact that Cisco ONE Software can have on an organization. Forrester:

- › Interviewed Cisco marketing and sales personnel, along with Forrester analysts, to gather data relative to Cisco ONE Software and the marketplace for Cisco ONE Software.
- › Interviewed an organization currently using Cisco ONE Software to obtain data with respect to costs, benefits, and risks.
- › Constructed a financial model with cost and benefit data obtained from the interview using the TEI methodology.
- › Risk-adjusted the financial model based on issues and concerns the interviewed organization highlighted. Risk adjustment is a key part of the TEI methodology. Some cost and benefit categories have a number of outside forces that might have affected the results. For that reason, some totals have been risk-adjusted and are detailed in each relevant section.

Forrester employed four fundamental elements of TEI to model Cisco ONE Software: 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.

FIGURE 2
TEI Approach



Source: Forrester Research, Inc.

Analysis

INTERVIEW HIGHLIGHTS

The interviewed organization is a longtime customer of Cisco. It started the move to Cisco ONE Software licensing as soon as it was available for its planned router upgrade.

The organization is a global consulting firm with headquarters in the United States. It has more than 50 offices worldwide supporting more than 4,000 employees. While much of its work is done in person at client sites, a high amount of network bandwidth and data management is required to support voice and email communication, as well as other data feeds and queries, with people, locations, and resources outside its offices.

With Cisco ONE Software, the organization hoped to:

- › Standardize and improve its networking infrastructure across all company offices.
- › Save on short-term purchase costs.
- › Avoid or reduce some future license costs.
- › Reduce its data center footprint.

Solution

The organization purchased new 4331 and 4351 routers to upgrade its networking infrastructure, and it included Cisco ONE Software for WAN Foundation and WAN Collaboration for all these devices. It purchased Cisco ONE Software on a perpetual license and added the annual Cisco ONE Software support fee.

Results

The interview revealed that:

- › With Cisco ONE Software, the organization was able to reduce or avoid costs with Cisco ONE Software's "better together" license costs and access to ongoing innovation and license portability features. License portability enables the organization to update software or move software licenses to new router hardware at no additional license cost.
- › The organization replaced dedicated application servers with cost-effective blade servers that are installed in the router casing. Voice, video, and other bandwidth-heavy application servers are now in the same box as the router, reducing the footprint and improving performance. These blades are also less expensive to purchase.
- › With Cisco ONE Software, the organization was able to reallocate about one-half an FTE to other IT tasks, avoiding or delaying hiring needs (and costs) for those teams.
- › Employees can also take advantage of the benefit of a new and standardized network. Improved network performance and reduced downtime mean an overall reduction in issues that might have blocked or delayed tasks in the past.
- › With a lower data center footprint, branch offices are able to repurpose that space for more meeting room and collaboration areas. The data center space reduction is also expected to help save on data center cooling and other costs.

“We are able now to support greater bandwidth as a part of this router refresh; we also upgraded our network and have doubled the bandwidth in all of our locations.”

~ Enterprise architect, consulting organization

BENEFITS

The interviewed organization experienced a number of quantified benefits in this case study:

- › Reduced and avoided license costs.
- › Reduced hardware costs for management servers.
- › Reduced IT resource costs.
- › Improved end user productivity.
- › Reduced data center space requirements.

“We’ve been using Cisco ONE Software from day one.”

~ Enterprise architect, consulting organization



Reduced And Avoided Cisco License Costs

“We’ve been using Cisco ONE Software from day one,” said the enterprise architect at the consulting organization, which has a long history of using Cisco routers and other Cisco solutions. With Cisco ONE Software, the organization was able to reduce or avoid software license costs. Signing up for Cisco ONE Software provided an initial reduction in new router software costs and will provide later benefits in avoided software licensing costs.

First, Cisco ONE Software provides access to a “better together” router license and associated software costs that provide reduced pricing compared with other Cisco purchase options. The organization replaced 55 routers, mostly in the 2800-series, and purchased 55 new 4300-series routers with Cisco ONE Software for WAN. Eighty percent of new routers were 4331, and the rest were 4351 devices (the latter are more expensive but were planned for larger offices to meet networking needs). This is highlighted in the Year 1 benefits shown in Table 1.

The organization typically upgrades its router hardware when it is nine years old. The organization is comfortable with this longer-than-average refresh cycle for its router hardware. Granted, this is longer than the average five to six years for many organizations. The organization may apply a faster refresh schedule in the future, at least for some branch offices, depending on those office needs.

Given that nine-year planned refresh schedule, the organization had planned to purchase updated software sometime in the four- or five-year timeframe, to get access to new features and capabilities. It plans to apply all patch and flash updates to all router hardware and bug-fix patches to management software, which Cisco provides to all its customers, but it knows that major software updates usually involve a new license purchase. While Cisco has not released a specific road map at this time, the organization assumes that Cisco will provide enough new features designed to meet new business requirements that necessitate updates in at least the busiest offices. But because the organization is now a Cisco ONE Software customer, it can use the access to ongoing innovation feature of Cisco ONE Software to deploy new software updates with no additional license cost. So not only will the organization be able to avoid the license cost for those planned refreshes in years 5 and 6, but it will also be able to refresh the software for all its routers. While these refreshes will not provide additional cost savings, they will unlock performance benefits for every office (and potentially every employee) in the organization.

After nine years of router hardware use, the organization plans to refresh all its hardware with new routers. Before, that would have meant retiring all its routers, including the software on those devices. Purchasing new routers would have included the router hardware *and* software. But now, with Cisco ONE Software’s license portability feature, as long as it keeps current with the Cisco ONE Software support service, the organization can transfer software licenses to new routers in the future. So in Year 10, when the organization plans its next major router upgrade, it will only have to pay for router hardware and can avoid all router software costs. It would only need to include software license costs if it adds any new routers to its environment, which the organization does not expect to do at this time.

TABLE 1
License Cost Savings With Cisco ONE Software Over 10 Years (Only Relevant Years Are Shown)

Ref.	Metric	Calculation	Year 1	Year 5	Year 6	Year 10
A1	Router bundle (hardware and software) installs planned before Cisco ONE Software		55			
A2	Router software updates already planned before Cisco ONE Software		55	6	5	55
A3	New router hardware installed with Cisco ONE Software		55			55
A4	New software updates with Cisco ONE Software		55	30	25	55
A5	4331 routers installed or updated	80% of total	44	24	20	44
A6	4351 routers installed or updated	20% of total	11	6	5	11
A7	Cost of 4331 bundle hardware		\$3,300			
A8	Cost of 4331 bundle software		\$5,600			\$5,600
A9	Cost of 4331 bundle total	A7 + A8	\$8,900			
A10	Cost of 4331 hardware and software with Cisco ONE Software		\$7,000			
A11	4331 Cost savings with Cisco ONE Software (hardware and/or software)	A9 - A10	\$1,900			
A12	Cost of 4351 bundle hardware		\$8,000			
A13	Cost of 4351 bundle software		\$8,900	\$8,900	\$8,900	\$8,900
A14	Cost of 4351 bundle total	A12 + A13	\$16,900			
A15	Cost of 4351 hardware + software with Cisco ONE Software		\$15,000			
A16	4351 cost savings with Cisco ONE Software (hardware and/or software)	A14 - A15	\$1,900			
At	Cisco ONE Software hardware and software cost savings	Year 1: A5 * A11 + A6 * A16 Year 5-10: A2 * A13	\$104,500	\$53,400	\$44,500	\$344,300
	Risk adjustment	↓15%				
Atr	Cisco ONE Software license cost savings (risk-adjusted)		\$88,825	\$45,390	\$37,825	\$292,655

Source: Forrester Research, Inc.

In summary, this results in a discounted software license price. The organization saves \$104,500 in the first year, as it buys its first router hardware-software bundle within Cisco ONE Software. For the routers it planned to update, it avoided the full software costs of \$53,400 in Year 5 and \$44,500 in Year 6. The organization then avoided the full software costs for all upgraded routers, saving \$344,300 in Year 10.

A 15% risk adjustment has been applied to allow for underestimation of prices and for potential future license price increases anytime in the next 10 years. The risk-adjusted cost savings and cost avoidance benefits are \$88,825 in the first year, \$45,390 in Year 5, \$37,825 in Year 6, and \$292,655 in Year 10. See the section on Risks for more information about risk adjustment in Forrester's TEI framework.

Note that the price of Cisco ONE Software is focused specifically on the software pieces of the solution. The router hardware price is the same whether in or out of Cisco ONE Software. Since the organization had already planned its 4331/4351 router hardware deployment, router hardware costs are not included in this model. These costs are unchanged before or after Cisco ONE Software.

“I really just want to be able to have voice, video, data firewall, and additional storage networking or virtual servers on one appliance. Video, voice, and data now sit inside of the router as well.”

~ Enterprise architect, consulting organization



Reduced Hardware Costs For Management Servers

With its implementation of Cisco ONE Software, the organization replaced key application servers with cost-effective (and more capable) blade servers that are installed in the router casing. “Video, voice, and data now sit inside of the router as well,” said the enterprise architect at the consulting organization.

TABLE 2

Server Hardware Cost Savings With Cisco ONE Software Over 10 Years (Only Relevant Years Are Shown)

Ref.	Metric	Calculation	Year 1	Year 10
B1	Number of external servers replaced		55	55
B2	Router server cost in previous configuration (external server)		\$4,000	
B3	Blade cost in new configuration (installed inside 4351 and 4331 routers)		\$2,500	
Bt	Server hardware cost savings	$B1 * (B3 - B2)$	\$82,500	\$82,500
	Risk adjustment	↓5%		
Btr	Server hardware cost savings (risk-adjusted)		\$78,375	\$78,375

Source: Forrester Research, Inc.

While the organization could have implemented this change without Cisco ONE Software, it considers Cisco ONE Software a significant enabler. It would have been much harder to manage and standardize this implementation if it kept some routers and servers, or if some lower-cost alternative routers were included (which

do not support a blade server addition inside the router casing). With Cisco ONE Software, the organization could easily plan and support the replacement of at least one external server with a blade server added inside every new router casing.

As shown in Table 2, these blade servers cost about \$1,500 less per server, for a total savings of \$82,500 in each router hardware refresh year — Year 1 and Year 10. A small risk adjustment has been included to allow for server hardware price increases in the next 10 years. The risk-adjusted result of \$78,375 is shown for Year 1 and Year 10. See the section on Risks for more information about risk adjustment in Forrester’s TEI framework.



Reduced IT Resource Costs

With the standardization across routers and management software enabled by Cisco ONE Software, as well as a more streamlined procurement process, the organization estimates it can reallocate one-half of an IT resource from a network management focus to another IT priority. As the enterprise architect at the consulting organization said about their previous state of network, “Because they were on different versions of software, we did have to manage them differently.”

The enterprise architect continued, “What’s improving right now is this overall workflow, so the workflow is more consistent and transparent between the teams as we deploy a new router.” This adds up to \$60,000 of networking resource costs saved or avoided per year, as shown in Table 3. A 10% risk adjustment has been included to allow for overestimated resource savings, so the risk-adjusted result is \$54,000 per year. See the section on Risks for more information about risk adjustment in Forrester’s TEI framework.

TABLE 3
IT Networking Resource Savings With Cisco ONE Software Over 10 Years (Some Years Are Summarized)

Ref.	Metric	Calculation	Initial	Year 1	Year 2 to 9	Year 10
C1	IT networking resources before		2			
C2	Reduction in IT networking resources with Cisco ONE Software			0.5	0.5	0.5
C3	Average IT networking resource salary (fully burdened)			\$120,000	\$120,000	\$120,000
C4	Other contract/consulting costs saved			\$0	\$0	\$0
Ct	IT resource savings	$C2 \times C3 + C4$	\$0	\$60,000	\$60,000	\$60,000
	Risk adjustment	↓10%				
Ctr	IT resource savings (risk-adjusted)		\$0	\$54,000	\$54,000	\$54,000

Source: Forrester Research, Inc.

Note: Related to IT resource cost savings, some net-new additional networking management tasks are assumed to be necessary and are added as a cost in the cost section. These tasks include managing and monitoring new automation processes, as well as new features and capabilities added in future years.



Improved End User Productivity

With the improved networking capability enabled by Cisco ONE Software now standard in all offices, networking issues, slowdowns, and outages are much rarer. Employees may not have noticed the change, but every avoided issue means more productivity in terms of delayed or repeated tasks. The enterprise architect at the consulting organization said that with its improved network, “We are able now to support greater bandwidth as a part of this router refresh; we also upgraded our network and have doubled the bandwidth in all of our locations.” The organization estimates that it can avoid one issue that affects about half the employees in each office per year. We have applied a productivity factor to convert this time savings into a realistic estimate of recovered work time. The overall productivity savings is estimated at \$21,034 per year, as shown in Table 4.

While a “time recovered” factor has been applied, a significant risk adjustment is still included to allow for overestimation of the number of people affected or the time saved. The risk-adjusted result is \$15,775 per year. See the section on Risks for more information about risk adjustment in Forrester’s TEI framework.

TABLE 4
Employee Productivity Enabled With Cisco ONE Software Over 10 Years (Some Years Are Summarized)

Ref.	Metric	Calculation	Initial	Year 1	Year 2 to 9	Year 10
D1	Employees across all offices			3,500		
D2	Issues per office per year			1		
D3	Employees affected			50%		
D4	Employee hours affected, per issue			0.5		
D5	Average employee hourly salary (fully burdened)			\$48		
D6	Time recovered for work-related tasks			50%		
Dt	Employee impact of Cisco ONE Software	$D1 * D2 * D3 * D4 * D5 * D6$	\$0	\$21,034	\$21,034	\$21,034
	Risk adjustment	↓25%				
Dtr	Employee impact of Cisco ONE Software (risk-adjusted)		\$0	\$15,775	\$15,775	\$15,775

Source: Forrester Research, Inc.



Reduced Data Center Space Requirements

The last benefit is important, but we are not able to measure it financially. While the organization’s network space reduction was influenced by other initiatives, this upgrade enabled router standardization and server blades that could be inserted into the router casing versus in another server. “I really just want to be able to have voice, video, data firewall, and additional storage networking or virtual servers on one appliance,” said the enterprise architect at the consulting organization. This means a smaller data center footprint, which leads to lower operations costs (such as a reduced air conditioning bill), as well as the lower IT resource requirements above. Across this and other initiatives, the organization reduced its data center footprint by a total of 400,000 square feet across all of its offices. This space is being repurposed for meeting room and collaboration areas.

Total Benefits

Table 5 shows the total of all benefits across the areas listed above, as well as present values (PVs) discounted at 10%. Over 10 years, the organization expects risk-adjusted total benefits to be a PV of nearly \$774,000.

TABLE 5
Summary Of Total Benefits Over 10 Years (Risk-Adjusted)

Ref.	Benefit Category	Cumulative Benefits	Present Value
Atr	Cisco ONE Software license cost savings	\$464,695	\$243,116
Btr	Other hardware cost savings	\$156,750	\$101,467
Ctr	IT resource savings	\$540,000	\$331,807
Dtr	Employee impact of Cisco ONE Software	\$157,752	\$96,932
Total benefits (risk-adjusted)		\$1,319,197	\$773,322

Source: Forrester Research, Inc.

COSTS

The interviewed organization experienced costs associated with the Cisco ONE Software implementation and management:

- › Cisco ONE Software support fees.
- › Resource costs related to deploying devices purchased with Cisco ONE Software and ongoing tasks related to new processes enabled by the upgraded router hardware and software.



Cisco ONE Software Support Fees

To remain current in Cisco ONE Software, the organization must maintain its annual Cisco ONE Software support fees. But since the organization was paying some router support fees before Cisco ONE Software, only the change in Cisco ONE Software annual software support fees is included in this model.

These costs are a standard annual fee and provide access to many of the future benefit estimates highlighted above. As shown in Table 6, the organization estimates it will cost \$10,175 per year to include all of its routers under Cisco ONE Software. A 15% risk adjustment has been applied to allow for future license cost increases (similar to the license cost savings benefit above). The risk-adjusted cost is \$11,701 per year. See the section on Risks for more information about risk adjustment in Forrester's TEI framework.

“What's improving right now is this overall workflow, so the workflow is more consistent and transparent between the teams as we deploy a new router. We are able now to support greater bandwidth, so as a part of this router refresh we also upgraded our network and together have doubled the bandwidth in all of our locations.”

~ Enterprise architect, consulting organization

TABLE 6

Cisco ONE Software License Costs Over 10 Years (Some Years Are Summarized)

Ref.	Metric	Calculation	Initial	Year 1	Year 2 to 9	Year 10
E1	4331 routers installed			44	44	44
E2	4351 routers installed			11	11	11
E3	New annual Cisco ONE Software support fees for 4331 routers			\$150		
E4	New annual Cisco ONE Software support fees for 4351 routers			\$325		
Et	Cisco ONE Software license cost	$E1 * E3 + E2 * E4$	\$0	\$10,175	\$10,175	\$10,175
	Risk adjustment	↑15%				
Etr	Cisco ONE Software license cost (risk-adjusted)		\$0	\$11,701	\$11,701	\$11,701

Source: Forrester Research, Inc.



Implementation And Ongoing Resource Costs

To implement its new routers and Cisco ONE Software, the organization needed to assign some resources for planning, testing, migration, and implementation tasks. One-time implementation resources are assigned during the primary router hardware and/or software updates: in the initial period, Year 5, Year 6, and Year 10.

TABLE 7

Cisco ONE Software-Related Resource Costs Over 10 Years (Some Years Are Summarized)

Ref.	Metric	Calculation	Initial	Year 1 to 4	Year 5 and 6	Year 7 to 9	Year 10
F1	Time required to test, deploy, and integrate new routers (hrs.)		250	0	25	25	200
F2	Time required to manage new tasks (hrs./wk.)		0	4	3	3	3
F3	IT hourly salary		\$58	\$58	\$58	\$58	\$58
Ft	Resource costs for Cisco ONE Software routers	$F3 * (F1 + F2 * F3 * 52)$	\$14,500	\$12,064	\$10,498	\$9,048	\$20,648
	Risk adjustment	↑10%					
Ftr	Resource costs for Cisco ONE Software routers (risk-adjusted)		\$15,950	\$13,270	\$11,548	\$9,953	\$22,713

Source: Forrester Research, Inc.

Additionally, the enablement of a standardized set of new routers was due in large part to Cisco ONE Software. Without Cisco ONE Software, the organization may not have purchased as many high-end routers and thus would not have been able to standardize as many tasks across all offices. These new routers enable some new capabilities, such as broader automation, encryption, and overall improved bandwidth.

“As we turn on new routers, we know that we’re going to encrypt more and send more data across their local network,” said the enterprise architect for the consulting organization.

Although automation saves time (as covered in the benefit section above), the organization must perform new tasks now and in the future, such as managing and monitoring automation processes and supporting new capabilities enabled in future versions. As shown in Table 7, this adds up to \$14,500 in resource costs during the initial period; \$9,048 to \$12,064 per year, including the software update resource time included in Year 5 and Year 6; and \$20,648 in Year 10, which includes ongoing tasks as well as the planned router hardware refresh.

A 10% risk adjustment has been included to allow for underestimated resource costs. The risk-adjusted result is \$15,950 during the initial period and \$9,953 to \$22,713 per year. See the section on Risks for more information about risk adjustment in Forrester’s TEI framework.

Total Costs

Table 8 shows the total of all costs as well as associated present values (PVs), discounted at 10%. Over 10 years, the organization expects total costs to be a PV of a little more than \$166,000.

TABLE 8
Summary Of Total Costs Over 10 Years (Risk-Adjusted)

Ref.	Cost Category	Cumulative Costs	Present Value
Etr	Cisco ONE Software license cost	\$117,013	\$71,899
Ftr	Resource costs to manage Cisco ONE Software equipment	\$144,698	\$94,432
Total costs (risk-adjusted)		\$261,711	\$166,331

Source: Forrester Research, Inc.

FLEXIBILITY

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for some 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. Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A). There are multiple scenarios in which a customer might choose to implement Cisco ONE Software and later realize additional benefits, including:

- › **Upgrading software earlier than previously planned.** Cisco ONE Software removes the budget constraint that would prevent the network management team from buying new software before the old version was fully depreciated. The organization can perform software upgrades as frequently as it wants without having to obtain budget and capital expenditure approval from multiple stakeholders.
- › **Upgrading hardware faster than nine years.** The organization’s network managers understand that the nine-year refresh cycle is longer than the average for other organizations. Cisco ONE Software makes it easier to accelerate the refresh if business opportunities or hardware improvements justify that. The organization would still have to buy the new

hardware, but it would not have to buy new software as well. With Cisco ONE Software’s license portability and access to ongoing innovation, the organization would not only be able to transfer its software license from the replaced hardware but it would be able to take advantage of Cisco ONE Software’s license portability feature. This means that the organization would only need to purchase new router hardware. If the organization decided that the major software update planned in Year 5 and Year 6 would change to a full hardware and software refresh, it would save about \$200,000 (risk-adjusted) more over those two years compared with the full price of new routers outside of Cisco ONE Software — the same amount as the organization expects to save in Year 10. If this was included in the financial analysis, the ROI would be about 70 points higher and the NPV about \$100,000 more.

RISKS

Forrester defines two types of risk associated with this analysis: “implementation risk” and “impact risk.” Implementation risk is the risk that a proposed investment in Cisco ONE Software may deviate from the original or expected requirements, resulting in higher costs than anticipated. Impact risk refers to the risk that the business or technology needs of the organization may not be met by the investment in Cisco ONE Software, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for cost and benefit estimates.

Quantitatively capturing implementation risk and impact risk by directly adjusting the financial estimates results provides more meaningful and accurate estimates and a more accurate projection of the ROI. In general, risks affect costs by raising the original estimates, and they affect benefits by reducing the original estimates. The risk-adjusted numbers should be taken as “realistic” expectations since they represent the expected values considering risk.

The following impact risks that affect benefits are identified as part of the analysis:

- › License cost savings are adjusted to allow for underestimation of prices and for potential future license price increases anytime in the next 10 years.
- › A small hardware cost adjustment has been included to allow for server hardware price increases in the next 10 years.
- › IT resource savings are adjusted to allow for overestimated resource savings.
- › Employee productivity is the benefit adjusted the most significantly. While a “time recovered” factor has been applied, a risk adjustment is still included to allow for overestimated productivity benefits in terms of the number of people affected or the time saved.

The following implementation risks that affect costs are identified as part of this analysis:

- › Cisco ONE Software support fees are adjusted to allow for future license cost increases (similar to the license cost savings benefit above).
- › IT resource costs are adjusted to allow for underestimated resource costs.

Table 9 shows the values used to adjust for risk and uncertainty in the cost and benefit estimates for the interviewed organization. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

TABLE 9
Benefit And Cost Risk Adjustments

Benefits	Adjustment
License cost savings and avoidances	↓ 15%
Hardware cost savings	↓ 5%
IT resource savings	↓ 10%
Employee productivity improvement	↓ 25%
Costs	Adjustment
Cisco ONE Software license costs	↑ 15%
Resource costs for net-new router implementation and ongoing tasks	↑ 10%

Source: Forrester Research, Inc.

Financial Summary

The financial results calculated in the Benefits and Costs sections can be used to determine the ROI and NPV over the 10-year analysis window for the interviewed organization's investment in Cisco ONE Software.

Table 10 shows the risk-adjusted ROI and NPV values. These values are determined by applying the risk-adjustment values from Table 9 in the Risks section to the unadjusted results in each relevant cost and benefit section.

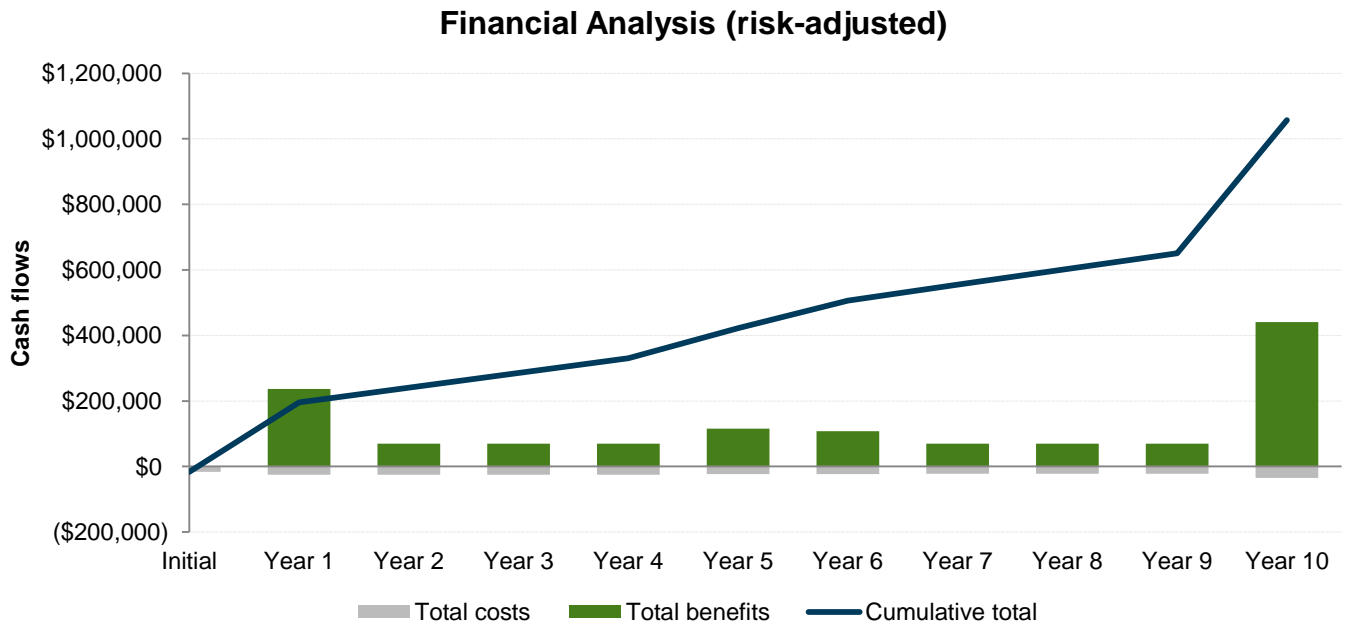
Given the 10-year cash flow, just the summary results are shown in the table. The cost and benefit sections include yearly totals.

TABLE 10
Ten-Year Financial Summary (Risk-Adjusted)

	Result
Present value of costs	(\$166,331)
Present value of benefits	\$773,322
Net present value (NPV)	\$606,990
ROI	365%

Source: Forrester Research, Inc.

FIGURE 3
Cash Flow Chart (Risk-Adjusted)



Source: Forrester Research, Inc.

Cisco ONE Software: Overview

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

Cisco ONE Software is a valuable and flexible way to buy software for your data center, WAN, and access domains. At each stage in the product life cycle, Cisco ONE Software helps make buying, managing, and upgrading your network and infrastructure software easier.

- › **When you buy.** Instead of choosing from hundreds of separately priced software features, you purchase a single Cisco ONE Software product. Instead of a single perpetual license tied to the lifetime of your hardware, Cisco offers flexibility with a choice of licensing options.
- › **When you use.** Your Cisco ONE Software investment can grow in value through ongoing innovation, updates, and upgrades.
- › **When you refresh.** You benefit from lower costs and lower TCO. Cisco ONE Software licenses are not tied to specific hardware, so they are portable to the next generation of applicable devices.

For more information, visit www.cisco.com/go/one.

Appendix A: Total Economic Impact™ Overview

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. TEI assists technology vendors in winning, serving, and retaining customers.

The TEI methodology consists of four components to evaluate investment value: benefits, costs, flexibility, and risks.

BENEFITS

Benefits represent the value delivered to the user organization — IT and/or business units — by the proposed product or project. Often, product or project justification exercises focus just on IT cost and cost reduction, leaving little room to analyze the effect of the technology on the entire organization. The TEI methodology and the resulting financial model place 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. Calculation of benefit estimates involves a clear dialogue with the user organization to understand the specific value that is created. In addition, Forrester also requires that there be a clear line of accountability established between the measurement and justification of benefit estimates after the project has been completed. This ensures that benefit estimates tie back directly to the bottom line.

COSTS

Costs represent the investment necessary to capture the value, or benefits, of the proposed project. IT or the business units may incur costs in the form of fully burdened labor, subcontractors, or materials. Costs consider all the investments and expenses necessary to deliver the proposed value. In addition, the cost category within TEI captures any incremental costs over the existing environment for ongoing costs associated with the solution. All costs must be tied to the benefits that are created.

FLEXIBILITY

Within the TEI methodology, direct benefits represent one part of the investment value. While direct benefits can typically be the primary way to justify a project, Forrester believes that organizations should be able to measure the strategic value of an investment. Flexibility represents the value that can be obtained for some future additional investment building on top of the initial investment already made. For instance, an investment in an enterprisewide upgrade of an office productivity suite can potentially increase standardization (to increase efficiency) and reduce licensing costs. However, an embedded collaboration feature may translate to greater worker productivity if activated. The collaboration can only be used with additional investment in training at some future point. However, having the ability to capture that benefit has a PV that can be estimated. The flexibility component of TEI captures that value.

RISKS

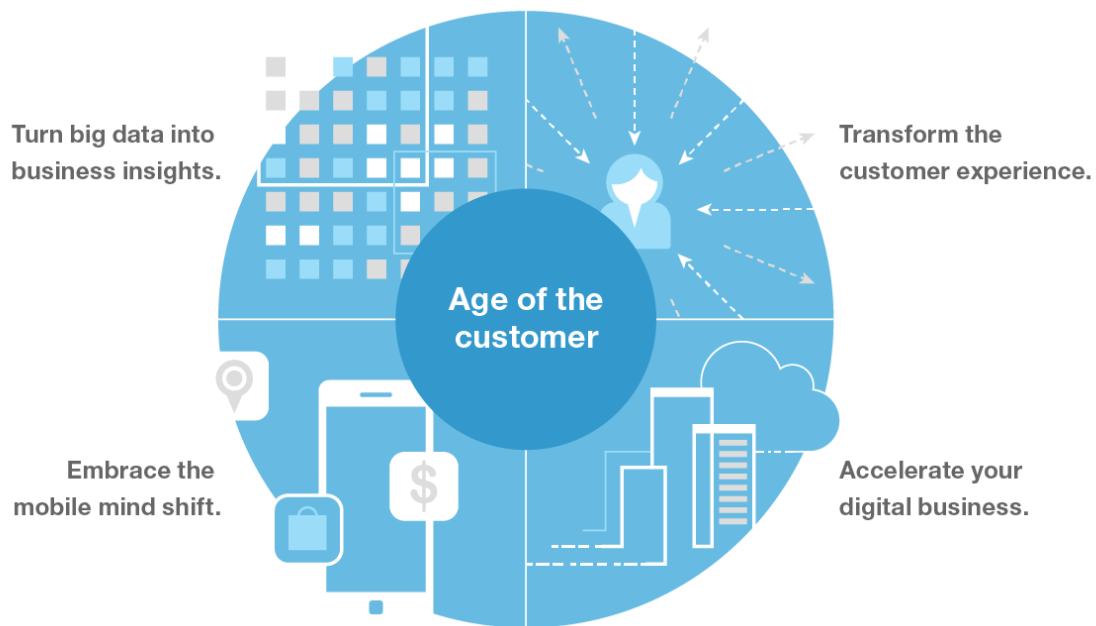
Risks measure the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: 1) the likelihood that the cost and benefit estimates will meet the original projections and 2) the likelihood that the estimates will be measured and tracked over time. TEI risk factors are based on a probability density function known as "triangular distribution" to the values entered. At a minimum, three values are calculated to estimate the risk factor around each cost and benefit.

Appendix B: Forrester And The Age Of The Customer

Your technology-empowered customers now know more than you do about your products and services, pricing, and reputation. Your competitors can copy or undermine the moves you take to compete. The only way to win, serve, and retain customers is to become customer-obsessed.

A customer-obsessed enterprise focuses its strategy, energy, and budget on processes that enhance knowledge of and engagement with customers and prioritizes these over maintaining traditional competitive barriers.

CMOs and CIOs must work together to create this companywide transformation.



Forrester has a four-part blueprint for strategy in the age of the customer, including the following imperatives to help establish new competitive advantages:



Transform the customer experience to gain sustainable competitive advantage.



Accelerate your digital business with new technology strategies that fuel business growth.



Embrace the mobile mind shift by giving customers what they want, when they want it.



Turn (big) data into business insights through innovative analytics.

Appendix C: Glossary

Table 11 provides the model assumptions that Forrester used in this analysis.

Time horizon: The time horizon used for the financial modeling is 10 years.

Discount rate: The interest rate used in cash flow analysis to take into account the time value of money. Companies set their own discount rate based on their business and investment environment. Forrester assumes a yearly discount rate of 10% for this analysis. Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult their respective organizations to determine the most appropriate discount rate to use in their own environment.

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.

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.

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.

Return on investment (ROI): A measure of a project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits minus costs) by costs.

A NOTE ON CASH FLOW TABLES

The following is a note on the cash flow tables used in this study (see the example table below). The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1. Those costs are not discounted. All other cash flows in years 1 through 10 are discounted using the discount rate (shown above) at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations are not calculated until 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.

TABLE 11
Model Assumptions

Ref.	Metric	Calculation	Value
G1	Hours per year (M-F, 9-5)	(40 hours x 52 weeks)	2,080
G2	IT networking resource salary (fully burdened)		\$120,000
G3	Hourly	(G2/G1)	\$58
G4	Information worker salary (fully burdened)		\$100,000
G5	Hourly	(G4/G1)	\$48

Source: Forrester Research, Inc.

TABLE [EXAMPLE]
Example Table

Ref.	Metric	Calculation	Year 1	Year 2	Year N...

Source: Forrester Research, Inc.