

A Forrester Total Economic  
Impact™ Study  
Commissioned By  
SimpliVity

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November 2015

# The Total Economic Impact™ Of SimpliVity Hyperconverged Infrastructure

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### ABOUT FORRESTER CONSULTING

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## Executive Summary

SimpliVity commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) that enterprises may realize by deploying its hyperconverged infrastructure technology. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of hyperconvergence solutions by SimpliVity.

To better understand the benefits, costs, and risks associated with SimpliVity, Forrester interviewed four executives at companies that have deployed SimpliVity. The executives shared with Forrester that hyperconvergence allowed them to bypass expensive hardware upgrades, avoid related professional services costs, and, with SimpliVity's "always-on inline deduplication and compression," realize storage efficiencies that average 60:1. (Results can vary depending on data types.)

Prior to SimpliVity, the organizations faced expensive upgrades to their existing server and storage infrastructure, increasing complexity to keep up with best practices for backup/recovery and disaster recovery, and rapidly growing virtual desktop infrastructure (VDI) deployments.

After implementing SimpliVity, the organizations retired VM hosts and traditional storage siloes and replaced them with SimpliVity hyperconverged infrastructure systems. By retiring the assets, the organizations saved on system upgrades, system leases, professional services, and data center real estate. In addition, the backup administrators avoided several hours of verifying backups and correcting errors every day. The IT manager at a financial services firm told Forrester, "I'm able to spend more time finding better solutions for the business instead of spending it on day-to-day maintenance."

### USING SIMPLIVITY REDUCED COSTS BY 73%

Our interviews with four customers and subsequent financial analysis found that a composite organization based on these interviewed organizations experienced the risk-adjusted ROI, benefits, and costs shown in Figure 1. The analysis points to benefits of more than \$3.4 million versus costs of more than \$1 million, adding up to a net present value (NPV) of more than \$3 million and an ROI of 224% over three years.

SimpliVity provides hyperconvergence solutions that integrate all infrastructure services below the virtual machine onto x86 building blocks.

The risk-adjusted value of the benefits realized by a composite organization based on interviews include:

- **Avoided cost of retired assets: \$3,186,000.**
- **Avoided professional services: \$596,700.**
- **Reduced labor to manage backups: \$129,960.**
- **Data center costs: \$205,200.**
- **System updates: \$23,085.**

**FIGURE 1**

**Financial Summary Showing Three-Year Risk-Adjusted Results**

**ROI:  
224%**

**Benefits PV:  
\$3,457,696**

**Costs PV:  
\$1,065,663**

**Payback:  
6.6 months**

Source: Forrester Research, Inc.

- › **Benefits.** The composite organization experienced the following risk-adjusted direct economic benefits that represent those experienced by the interviewed companies:
  - **Avoided cost of server and storage hardware.** By implementing six SimpliVity hyperconverged infrastructure nodes, the organization was able to avoid a major system upgrade, retire a number of storage and server devices, and avoid the annual maintenance cost on those devices, for a total savings over three years of \$3,186,000.
  - **Reduced cost of professional services.** The previous server and storage architecture required additional professional services to augment the expertise of the internal team. The composite organization paid for an average of 24 hours per week of professional services, which it avoided by implementing SimpliVity, for a savings of \$596,700.
  - **Reduced labor to manage backups.** After implementing SimpliVity and leveraging the built-in data protection capabilities of the platform, the backup administrators saved an average of 3 hours per day of activity that was previously required to confirm backups and resolve any problems. Over three years, the productivity savings is valued at \$129,960.
  - **Avoided cost of data center floor space.** The previous infrastructure required 120 rack units of data center floor space that was no longer required. Because all of the companies that Forrester interviewed lease raised floor data center space, the composite companies realized a direct savings of \$6,000 per month for a total savings of \$205,200.
  - **Avoided cost of performing system updates.** The previous infrastructure required major system updates six times per year, which required six hours of professional services to perform, resulting in an avoided cost over three years of \$23,085.
  
- › **Costs.** The composite organization experienced the following risk-adjusted costs:
  - **Cost of SimpliVity hyperconverged infrastructure.** The cost for six SimpliVity nodes and the maintenance for three years totaled \$1,106,700.
  - **Effort required to move data.** Moving terabytes of data from the old storage system to SimpliVity hyperconverged infrastructure required five nights of effort by the storage team, which is equivalent to \$9,072 of labor.

## Disclosures

The reader should be aware of the following:

- › The study is commissioned by SimpliVity 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 SimpliVity.
- › SimpliVity 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.
- › SimpliVity provided the customer names for the interviews but did not participate in the interviews.

## TEI Framework And Methodology

### INTRODUCTION

From the information provided in the interviews, Forrester has constructed a Total Economic Impact (TEI) framework for those organizations considering implementing SimpliVity. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision, to help organizations understand how to take advantage of specific benefits, reduce costs, and improve the overall business goals of winning, serving, and retaining customers.

### APPROACH AND METHODOLOGY

Forrester took a multistep approach to evaluate the impact that SimpliVity can have on an organization (see Figure 2). Specifically, Forrester:

- › Interviewed SimpliVity marketing, sales, and consulting personnel, along with Forrester analysts, to gather data relative to SimpliVity and the marketplace for hyperconverged infrastructure.
- › Interviewed four organizations currently using SimpliVity to obtain data with respect to costs, benefits, and risks.
- › Designed a composite organization based on characteristics of the interviewed organizations.
- › Constructed a financial model representative of the interviews using the TEI methodology. The financial model is populated with the cost and benefit data obtained from the interviews as applied to the composite organization.
- › Risk-adjusted the financial model based on issues and concerns the interviewed organizations highlighted in interviews. Risk adjustment is a key part of the TEI methodology. While interviewed organizations provided cost and benefit estimates, some categories included a broad range of responses or had a number of outside forces that might have affected the results. For that reason, some cost and benefit totals have been risk-adjusted and are detailed in each relevant section.

Forrester employed four fundamental elements of TEI in modeling SimpliVity: 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

### COMPOSITE ORGANIZATION

For this study, Forrester conducted a total of four interviews with representatives from the following four companies, which are SimpliVity customers:

- › **Higher education institution.** This institution maintains two data centers — one onsite and one at a disaster recovery center offsite — each with a SimpliVity hyperconverged infrastructure node. The organization was facing an expensive hardware upgrade to its storage environment that precipitated its evaluation of alternative technologies.
- › **Financial services organization.** The company replaced 20 TBs of storage and 14 VM hosts with two SimpliVity hyperconverged infrastructure systems. The organization runs a very lean IT operation and was facing a challenge keeping staff with skills to manage a wide range of storage and backup tools/environments.
- › **Healthcare company.** This global firm based in Germany operates thousands of medical clinics across the United States and is actively acquiring additional facilities. Integrating newly acquired companies into the company's data center and desktop operations was requiring too much time, which drove IT managers to evaluate hyperconvergence technologies.
- › **Transportation provider.** This company provides railway and trucking transportation services across North America and internationally. With all of the tasks required every day to validate backups and correct errors, the IT manager told Forrester, "We almost didn't have enough time in a day to get all the backups that we were doing."

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 that Forrester synthesized from these results represents an organization with the following characteristics:

- › Replaced servers and storage to avoid required upgrade costs and \$775,000 in annual leases. Based on prices shared by the interview companies, this pricing roughly equates to about 20 TBs of RAID storage and 45 physical VM hosts.
- › Managed two data center locations — one primary center and a backup and disaster recovery facility. Backups are run nightly and require several hours of management time every day.
- › Faced end-of-life challenges or significant upgrade expenses for its storage and server environment that totaled \$480,000. In one case, the expense was a technology upgrade and in another it was a data center relocation project.

After an internal evaluation, the composite organization:

- › Realized an average 60:1 reduction in storage requirements due to data deduplication, optimization, and compression.
- › Reduced management effort to manage daily backup and storage system activities by a total of more than 20 hours per week, significantly improving productivity and reducing professional services fees. The IT manager at the transportation provider said, "For our Exchange server, we went from a 12-hour backup window to literally minutes."
- › Restored systems more rapidly. The IT manager at the transportation provider said, "I took a virtual machine that I had restored the night before, which took 2 or 3 hours. The next day, I restored it again using SimpliVity and had it up and running in less than five minutes."

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*"SimpliVity enabled me to invest my time finding better solutions to business problems instead of spending time on day-to-day maintenance."*

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~ IT manager, financial services organization

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## INTERVIEW HIGHLIGHTS

Forrester conducted four interviews with executives at companies that are using SimpliVity. Although the organizations work in different industries, they had a consistent experience implementing and similar results from using SimpliVity.

### Situation

Before using SimpliVity, each of the interviewed companies:

- › Faced significant upgrades. One company was reaching the maximum capacity of its storage system; another company was facing the end-of-life support from the vendor. Each of the companies began evaluating hyperconvergence solutions because of major, imminent upgrade requirements.
- › Spent a lot of time managing storage, including backups. On average, the organizations purchased 8 hours per week of professional services to help manage, configure, or optimize storage environments. In addition, backup administrators spent 3 hours every business day to verify that backups completed correctly and to resolve any anomalies.
- › Deployed an increasing number of VDI users. One organization is growing heavily through acquisition and uses VDI to quickly standardize organizations on its enterprise applications. Another organization uses VDI to deploy both enterprise and desktop applications to a diverse set of users who provide their own desktop and mobile devices.

### Solution

The composite organization adopted SimpliVity by implementing six hyperconverged infrastructure nodes, in order to support up to 150 fully protected virtual machines. Three were installed in the primary data center location and three at a disaster recovery facility.

### Results

The interview revealed that using SimpliVity resulted in:

- › **An average improvement in storage efficiency of 60:1.** Three of the four companies provided Forrester with exact improvements in the storage efficiency from the “always-on inline deduplication, optimization, and compression” of SimpliVity. The improvements experienced were 25:1, 45:1, and 110:1.
- › **Simplified backup operations.** In addition to eliminating the cost for physical storage and server assets, the organization avoided professional services, reduced the effort required to manage backups, and was able to deploy a robust disaster recovery solution — something that had previously been too difficult to manage.

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*“Costs started to escalate, and we hit a critical mass of our core infrastructure. The hardware was coming up for end-of-life as well as some significant maintenance renewals.”*

~ IT manager, financial services organization

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*“SimpliVity gives us a significantly lower cost, significantly lower application complexity, and an improved disaster recovery solution.”*

~ Backup manager, educational institution

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## BENEFITS

The composite organization experienced the following quantified benefits in this case study:

- › Avoided cost of storage and server hardware.
- › Reduced cost of professional services.
- › Reduced labor to manage backups.
- › Avoided cost of data center floor space.
- › Avoided cost of performing system updates.



### Avoided Cost Of Storage And Server Hardware

Among the companies that Forrester interviewed, most were motivated to adopt hyperconvergence solutions because of a major cost looming in the near future. In one case, the cost was a storage technology that the vendor was retiring; in another case, the cost was a relocation of the company's data centers. While the exact nature of the cost varied, the cost that the composite company avoided by adopting SimpliVity was \$480,000. In addition, the annual lease costs for the servers and racks totaled \$900,000 and \$120,000 in annual maintenance fees for a total over three years of \$3,540,000.

Because the level of cost avoidance was similar across the interviewed companies, Forrester assigned a moderate risk quotient of 10% to this benefit. The risk-adjusted benefit over three years totaled \$3,186,000.

**TABLE 1**  
**Avoided Cost Of Storage And Server Hardware**

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Avoided cost of pending infrastructure upgrade or related fixed cost		480,000		
A2	Avoided lease costs for storage and server infrastructure		900,000	900,000	900,000
A3	Avoided maintenance fees		\$120,000	\$120,000	\$120,000
At	Avoided cost of storage and server hardware	A1+A2+A3	\$1,500,000	\$1,020,000	\$1,020,000
	Risk adjustment		↓ 10%		
Atr	Avoided cost of storage and server hardware (risk-adjusted)		\$1,350,000	\$918,000	\$918,000

Source: Forrester Research, Inc.





### Reduced Cost Of Professional Services

The organization spent regular amounts on professional services to help configure and manage their technical environments before adopting SimpliVity. Larger organizations hire in-house staff rather than paying for professional services, but Forrester found that this savings applies for all company sizes.

On average, the organization purchased 8 hours of professional services per week. After adopting SimpliVity, the composite organization cut back the level of professional services by 50% during the first year, while migrating and retiring its current solutions. As shown in Table 2, the savings over three years totaled \$702,000.

Because some organizations incurred significant costs for financial services and other companies spent little, if anything, on professional services, Forrester risk-adjusted and reduced by 15%. The risk-adjusted benefit totaled \$596,700 over three years.

**TABLE 2**  
**Reduced Cost Of Professional Services**

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Avoided hours of professional services (50% in Year 1; 100% in years 2 and 3)	24 hours per week	624	1,248	1,248
B2	Average cost per hour		\$225	\$225	\$225
Bt	Reduced cost of professional services	B1*B2	\$140,400	\$280,800	\$280,800
	Risk adjustment		↓ 15%		
Btr	Reduced cost of professional services (risk-adjusted)		\$119,340	\$238,680	\$238,680

Source: Forrester Research, Inc.



### Reduced Labor To Manage Backups

Each of the companies told Forrester that using SimpliVity reduced the effort of their backup administrators by an average of 3 hours per day for a total productivity improvement over three years of \$136,800. Because each of the companies had a similar experience, this benefit was risk-adjusted and reduced by only 5%, resulting in a risk-adjusted benefit of \$129,960.

**TABLE 3**  
Reduced Labor To Manage Backups

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	Hours saved for backup admins	3 hours * 260 days	780	780	780
C2	Average cost per hour	C1/2080	38%	38%	38%
C3	Average burdened salary for backup admin		\$120,000	\$120,000	\$120,000
Ct	Reduced labor to manage backups	C2*C3	\$45,600	\$45,600	\$45,600
	Risk adjustment		↓ 5%		
Ctr	Reduced labor to manage backups (risk-adjusted)		\$43,320	\$43,320	\$43,320

Source: Forrester Research, Inc.



### Avoided Cost Of Data Center Floor Space

As the organizations eliminated storage and server assets, they also avoided paying for the associated data center floor space, the power to run the equipment, and the cost of cooling. One organization told Forrester that its average power decreased from 2,700 watts to 1,500 watts. The average savings for the interviewed companies was \$6,000 per month for a total of \$216,000 over three years. Since each of the companies experienced this result, this benefit was risk-adjusted and reduced by 5% for a risk-adjusted benefit of \$205,200.

**TABLE 4**  
Avoided Cost Of Data Center Floor Space

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
D1	Reduced cost of data center space, power reductions, and cooling cost reductions	\$6,000 per month	\$72,000	\$72,000	\$72,000
Dt	Avoided cost of data center floor space	=D1	\$72,000	\$72,000	\$72,000
	Risk adjustment		↓ 5%		
Dtr	Avoided cost of data center floor space (risk-adjusted)		\$68,400	\$68,400	\$68,400

Source: Forrester Research, Inc.



### Avoided Cost Of Performing System Updates

The infrastructure in place before SimpliVity required an average of six system updates per year. Each update required 6 hours of professional services, costing a total of \$8,100 per year or \$24,300 over three years. This benefit was risk-adjusted and reduced by 5%. The risk-adjusted benefit from reducing errors in orders totaled \$23,085 over three years.

**TABLE 5**  
Avoided Cost Of Performing System Updates

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
E1	Hours spent performing system updates	6 hours * 6 updates/year	36	36	36
E2	Average cost per hour		\$225	\$225	\$225
Et	Avoided cost of performing system updates	E1*E2	\$8,100	\$8,100	\$8,100
	Risk adjustment		↓ 5%		
Etr	Avoided cost of performing system updates (risk-adjusted)		\$7,695	\$7,695	\$7,695

Source: Forrester Research, Inc.



### Unquantified Benefits

In addition to the benefits quantified thus far, Forrester's interviews with SimpliVity's customers highlighted additional benefits that they were unable to quantify. These unquantified benefits include:

- Improved disaster recovery operations.** All of the interviewed customers also use SimpliVity at a redundant site for disaster recovery purposes. SimpliVity's global unified management, coupled with globally aware data efficiency for VM mobility, has made it easier to test disaster recovery capabilities — reducing time and labor costs — and provides added assurance that the organization will be able to operate from the remote site in case of an unplanned outage at the main site.
- Reduced enterprise software licensing costs.** One of the interviewed companies was able to avoid an increase in fees after a recent software licensing audit by using SimpliVity's hyperconverged infrastructure instead of a multiport SAN, which had exposed the company to licensing complications in the past. The director of infrastructure at the healthcare provider told Forrester, "We were completely compliant with licensing, and using SimpliVity helped us avoid gray areas that big software vendors try to expose you to when using shared storage."
- Integrated management console and VM toolsets.** The backup manager of one company told Forrester, "We wanted to be able to manage everything from one place. SimpliVity allows us to manage everything from the vCenter Server, which was one piece that was compelling us to adopt SimpliVity."
- Significant reduction of IOPS.** One IT manager said, "Getting rid of IOPS during the proof of concept with SimpliVity was an eye opener. Prior to SimpliVity, we had a file server that was running about 700 to 800 IOPS. With SimpliVity, we've seen a drastic reduction in IOPS across all 200 servers in our environment."

## Total Benefits

Table 6 shows the total of all benefits across the five benefits listed above, 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 more than \$3.4 million.

**TABLE 6**  
**Total Benefits (Risk-Adjusted)**

Ref.	Benefit	Year 1	Year 2	Year 3	Total	Present Value
Atr	Avoided cost of storage and server hardware	\$1,350,000	\$918,000	\$918,000	\$3,186,000	\$2,675,657
Btr	Reduced cost of professional services	\$119,340	\$238,680	\$238,680	\$596,700	\$485,071
Ctr	Reduced labor to manage backups	\$43,320	\$43,320	\$43,320	\$129,960	\$107,730
Dtr	Avoided cost of data center floor space	\$68,400	\$68,400	\$68,400	\$205,200	\$170,101
Etr	Avoided cost of performing system updates	\$7,695	\$7,695	\$7,695	\$23,085	\$19,136
	<b>Total benefits</b>	<b>\$1,588,755</b>	<b>\$1,276,095</b>	<b>\$1,276,095</b>	<b>\$4,140,945</b>	<b>\$3,457,696</b>

Source: Forrester Research, Inc.

## COSTS

The composite organization experienced the following costs associated with SimpliVity:

- › Cost of six SimpliVity hyperconverged infrastructure nodes.
- › Effort required to move data.

These represent the mix of internal and external costs experienced by the composite organization for initial planning, implementation, and ongoing maintenance associated with the solution.



### Cost Of SimpliVity Hyperconverged Infrastructure

The organization purchased a total of six SimpliVity nodes for the company's primary data center and for the secondary location to facilitate disaster recovery. The six nodes cost a total of \$775,000 along with 12% annual maintenance fees. The total cost over three years totaled \$1,054,000. Forrester risk-adjusted this cost upward by 5%, bringing the cost over three years to \$1,106,700.

**TABLE 7**  
**Cost Of SimpliVity Hyperconverged Infrastructure Nodes**

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
F1	Number of users		775,000			
F2	Annual maintenance fee	F1*12%		93,000	93,000	93,000
Ft	Cost of SimpliVity nodes	F1+F2	\$775,000	\$93,000	\$93,000	\$93,000
	Risk adjustment		↑ 5%			
Ftr	Cost of SimpliVity nodes (risk-adjusted)		\$813,750	\$97,650	\$97,650	\$97,650

Source: Forrester Research, Inc.



### Effort Required To Move Data

Setting up the SimpliVity hyperconverged infrastructure nodes and moving data onto them took only a nominal effort by the organization. Five employees required five nights of effort to move terabytes of data, for a total labor cost of \$8,640. The setup costs were similar from organization to organization. As such, this cost was risk-adjusted up by 5%. The risk-adjusted cost of annual maintenance was \$9,072. See the section on Risks for more detail.

**TABLE 8**  
Effort Required To Move Data

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
G1	Hours required to move data	5 nights * 10 hours * 3 technicians	150			
G2	Annualized time required	G1/2080	7.2%			
G3	Annual burdened salary		\$120,000			
Gt	Effort required to move data	G1*G2*G3	\$8,640			
	Risk adjustment		↑ 5%			
Gtr	Effort required to move data (risk-adjusted)		\$9,072			

Source: Forrester Research, Inc.

### Total Costs

Table 9 shows the total of all costs as well as associated present values, discounted at 10%. Over three years, the composite organization expects total costs to total a net present value of more than \$1 million.

**TABLE 9**  
Total Costs (Risk-Adjusted)

Ref.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Ftr	Cost of SimpliVity nodes	\$813,750	\$97,650	\$97,650	\$97,650	\$1,106,700	\$1,056,591
Gtr	Effort required to move data	\$9,072	\$0	\$0	\$0	\$9,072	\$9,072
	<b>Total costs</b>	<b>\$822,822</b>	<b>\$97,650</b>	<b>\$97,650</b>	<b>\$97,650</b>	<b>\$1,115,772</b>	<b>\$1,065,663</b>

Source: Forrester Research, Inc.

## 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 SimpliVity 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 SimpliVity, 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.

Table 10 shows the values used to adjust for risk and uncertainty in the cost and benefit estimates for the composite organization. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

**TABLE 10**  
**Benefit And Cost Risk Adjustments**

<b>Benefits</b>	<b>Adjustment</b>
Avoided cost of storage and server hardware	↓ 15%
Reduced cost of professional services	↓ 15%
Reduced labor to manage backups	↓ 5%
Avoided cost of data center floor space	↓ 5%
Avoided cost of performing system updates	↓ 5%
<b>Costs</b>	<b>Adjustment</b>
Cost of license fees	↑ 5%
Cost to configure and test SimpliVity	↑ 5%

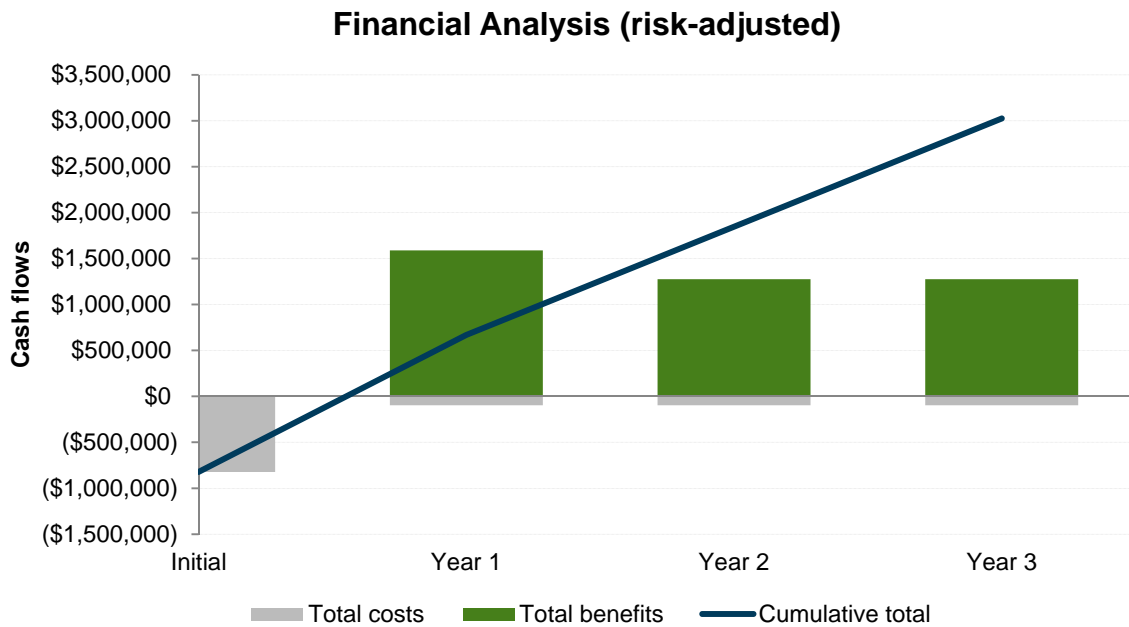
Source: Forrester Research, Inc.

## Financial Summary

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 in SimpliVity.

Table 11 below shows the risk-adjusted ROI, NPV, and payback period values. These values are determined by applying the risk-adjustment values from Table 10 in the Risks section to the unadjusted results in each relevant cost and benefit section.

**FIGURE 3**  
Cash Flow Chart (Risk-Adjusted)



Source: Forrester Research, Inc.

**TABLE 11**  
Cash Flow (Risk-Adjusted)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Costs	(\$822,822)	(\$97,650)	(\$97,650)	(\$97,650)	(\$1,115,772)	(\$1,065,663)
Benefits	\$0	\$1,588,755	\$1,276,095	\$1,276,095	\$4,140,945	\$3,457,696
Net benefits	(\$822,822)	\$1,491,105	\$1,178,445	\$1,178,445	\$3,025,173	\$2,392,033
ROI						224%
Payback period						6.6 months

Source: Forrester Research, Inc.



## SimpliVity: Overview

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

SimpliVity was founded in 2009 and spent 43 months of development in stealth mode before releasing its first product. These additional two years of development, compared to traditional venture-backed timelines, gave SimpliVity time to invest in foundational technology that has enabled it to assimilate all IT infrastructure under the hypervisor.

SimpliVity hyperconverged infrastructure represents a significant improvement over early forms of convergence and hyperconvergence, changing existing infrastructure paradigms in three ways: data efficiency, global unified management, and built-in data protection.

All IT components are combined in a single shared pool of commodity x86 resources — not just servers and storage, but the entire legacy stack, including backup and WAN acceleration. This enables a scalable, modular building-block approach that not only controls up front capital investment but also reduces opex, including maintenance, power and cooling, bandwidth, and labor.

Multiple hyperconverged infrastructure building blocks can be deployed within and across data centers to form a federation, resulting in a massively scalable, shared resource pool and enabling efficient data movement and enterprise-class system availability. All resources and workloads contained in the collective federation are managed centrally.

- › **Data efficiency.** The data efficiency mechanism for the shared resource pool should not only eliminate redundancy to optimize capacity, but also eliminate unnecessary writes to hard disk drives (HDDs) and reduce input/output operations per second (IOPS), improving performance. In a distributed hyperconverged infrastructure environment, data deduplication, compression and optimization run globally, across federated nodes in multiple locations. Powered by SimpliVity's OmniStack Accelerator Card, these global operations — across production and backup data — contribute to the drastic reduction of storage capacity requirements cited by SimpliVity customers. These processes occur inline, in real time, the first time data is written and data remains in an optimized state until deleted. Deduplication is especially important in today's post-virtualization environments where IOPS requirements have increased tenfold. Inline deduplication eliminates IOs before they ever happen.
- › **Global unified management.** Hyperconvergence uses a VM as the unit of data management, obviating the need to manage at the discrete component level, such as LUNs or shares on storage. Policies are established at the virtual machine level. This VM-centric approach leverages in-place management tools like VMware vCenter, VMware vRealize Automation, or UCS Director, enabling one-click operations at the VM level, including backup, restore, and data migration. A single administrator can manage systems globally from a single pane of glass. In addition, the ability to rapidly provision new infrastructure without local IT resources and deploy new workloads introduces operational efficiency and responsiveness.
- › **Built-in data protection.** In a data-efficient hyperconverged infrastructure, data protection operates natively at the VM level. This integration enables fast, reliable backup and recovery (manually or automatically by policy) with RTOs and RPOs measured in minutes without any third-party hardware or software. Synchronous replication provides high availability (HA) locally, and off-site replication supports disaster recovery.

SimpliVity's hyperconverged infrastructure offers distinct advantages over more conventional infrastructure choices by delivering next-generation IT infrastructure that delivers improved application performance; faster and more reliable data protection; greater WAN efficiency and effectiveness; global management across distributed environments from a central console; and ease of scale to meet growth demands—all while dramatically reducing costs.

**For more information, visit: [www.simplivity.com](http://www.simplivity.com)**

## 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 enterprise-wide 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

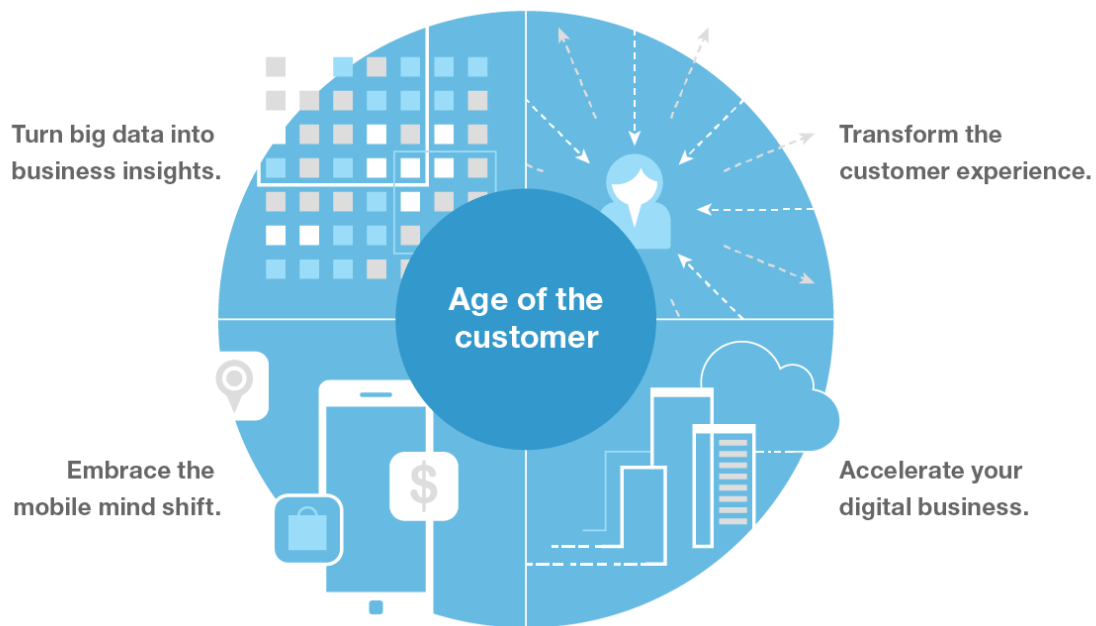
Risks measure the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: 1) the likelihood that the cost and benefit estimates will meet the original projections and 2) the likelihood that the estimates will be measured and tracked over time. TEI 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

**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 3 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 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 [EXAMPLE]

Example Table

Ref.	Metric	Calculation	Year 1	Year 2	Year 3

Source: Forrester Research, Inc.