A Forrester Total Economic Impact™ Study
Commissioned By HPE
May 2018

The Total Economic Impact™ Of HPE GreenLake Flex Capacity

Business Benefits And Cost Savings Enabled By HPE GreenLake Flex Capacity

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ABOUT FORRESTER CONSULTING

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit forrester.com/consulting.

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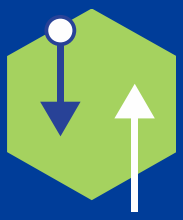
ROI
166%

Benefits PV
$13.3 million

NPV
$8.3 million



Payback
<6 months

Executive Summary

Organizations across industries are realizing that their business models are changing as the pace of digital transformation gains speed. In this new on-demand economy in the age of the customer, IT teams must be both nimble and flexible to support their businesses and succeed. According to Forrester's research, organizations understand that cloud is no longer an option — it's inevitable.[1] However, cloud strategies across industries, workloads, and applications differ significantly. Businesses may require on-premises IT solutions to comply with security and regulatory requirements, sunk capital investments, performance requirements, or the amount of control they need. HPE GreenLake Flex Capacity provides the best of both worlds with infrastructure services that allow organizations to operate their IT infrastructure on-premises while taking advantage of the benefits of the public cloud.

HPE commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by leveraging HPE GreenLake Flex Capacity. The purpose of this study is to provide organizations with a framework to evaluate the potential financial impact of using HPE GreenLake Flex Capacity.

HPE GreenLake Flex Capacity is a scalable IT infrastructure service that provides a consumption-based IT model aligned to capacity usage. This allows IT organizations to easily scale up to handle fluctuations in demand and changing market conditions. In addition, organizations get personalized support to augment their IT teams, freeing up internal resources to focus on more value-added and innovative opportunities. This flexible hybrid IT model provides organizations with the agility to scale and grow fast without the burden of identifying and procuring new infrastructure. The pay-as-you-go model that HPE GreenLake Flex Capacity offers also frees up cash flow and reduces the need to plan for long-term capital expenditures. Organizations that use HPE GreenLake Flex Capacity gain benefits and cost savings by:

- Increasing business productivity by improving time-to-value of business initiatives.
- Realizing capex savings by reducing the need to invest in IT infrastructure.
- Providing organizations with a flexible infrastructure to scale quickly as required by the business.
- Reducing or removing the time associated with capacity planning.
- Improving IT productivity with additional support resources and HPE's expertise.
- Providing self-service reporting and dashboards on their metered usage to budget and forecast demand.

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Time-to-market: 65% faster

Capex savings: 30%

Reduction in outside fees: 90%

IT resource savings: 40%

> "HPE GreenLake Flex Capacity provides us with the on-demand capacity and agility that we need. Our business is growing year after year, and technology has to support our growth. To satisfy and continue to offer our customers a great experience, we need to have the flexibility to make business decisions and the IT infrastructure capacity to help execute."
>
> *Global network data manager, online retail company*

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed several customers with multiple years of experience using HPE GreenLake Flex Capacity. Customers chose HPE GreenLake Flex Capacity for its global footprint and expertise and its ability to help drive the economics of public cloud with the security and performance of on-premises IT.

Forrester interviewed five global enterprises across a range of industries and locations. These organizations had multiple data centers and an extensive physical and virtual infrastructure footprint. Additionally, the organizations interviewed had different storage hardware in their environments, ranging from traditional spinning disks to all-flash arrays across multiple petabytes of data.

To reflect on the total economic impact that HPE GreenLake Flex Capacity could have on an organization's business, Forrester developed a composite organization, described in detail later in the study, based on benefit and cost data gathered from the customer interviews. The composite organization is representative of the companies that Forrester interviewed and is used to present the aggregate financial analysis in this study. While the study aims to quantify direct cost savings and incremental benefits related to an investment in HPE GreenLake Flex Capacity, organizations may achieve additional benefits such as the ability to influence business metrics, enjoying access to the latest technology, and improving the organization's security posture.

Key Findings

Forrester's interviews with five existing HPE GreenLake Flex Capacity customers and subsequent financial analysis found that a global organization with 5 petabytes of storage and $4M worth of physical assets could expect to experience benefits of $13.3M present value (PV) over three years versus costs of $5.0M PV, adding up to a net present value (NPV) of about $8.3M. Over the same period, the composite organization could achieve a 166% return on investment in HPE GreenLake Flex Capacity.

The interviewed organizations also noted that they were able to get a payback on their investment within six months of full implementation. Payback is based on companies recovering their costs of deploying and integrating HPE GreenLake Flex Capacity into their business environment.

Quantified benefits. The following risk-adjusted quantified benefits are representative of those experienced by the organizations interviewed and reflect the financial analysis associated with the composite organization. All values are reported in three-year present value:

- **Shortened time-to-market of deploying global IT projects by 65%.** Customers interviewed for this study noted a significant decrease in time-to-market for the global IT projects after the HPE GreenLake Flex Capacity investment. Organizations achieved this benefit through having a buffer of extra onsite capacity that is already implemented. The usage of this capacity is metered and organizations only pay what they use. Organizations can also access self-service reporting to budget and forecast future capacity demands. This improves the efficiency of executing IT projects, allows to quickly scale-up capacity, and reduces the time speant on procuring capacity to line up with business needs. In addition, organizations take advantage of HPE Pointnext, HPE's own support services, to provide the right storage, compute, and backup resources allowed organizations to focus on projects instead of infrastructure.

> "Our IT vision is to be in the cloud. However, with a large data center, we need the control and security of critical applications and workloads to be on-premises. HPE GreenLake Flex Capacity provides us with the best of both worlds while significantly reducing our costs and improving our IT productivity managing in this model."
>
> *Storage architect*
> *global consulting company*

> "Our decision to move to HPE GreenLake Flex Capacity has significantly reduced our procurement time to add infrastructure capacity to meet business demand, and we have seen a perpetual reduction in cost from managing in this model."
>
> *Global data center manager, chemical company*

- **Reduced capex spend by 30%.** HPE GreenLake Flex Capacity enabled customers to avoid overprovisioning for infrastructure and eliminate expenses for technology refreshes. With HPE GreenLake Flex Capacity, companies could use modern, more powerful technology and scale their usage up or down as required by their business needs.
- **Saved 90% of the professional services/contractor costs.** By replacing their legacy infrastructure, customers avoided maintenance and professional services expenses with HPE GreenLake Flex Capacity.
- **Improved IT resources productivity by 40%.** With HPE GreenLake Flex Capacity supporting your choices of on-premises infrastructure and data center management tasks including support, administration, and planning, organization's internal IT professionals could take on a more strategic role of supporting business initiatives.

Unquantified benefits. The interviewed organizations experienced the following benefits, which are not quantified for this study:

- Improved business productivity due to fewer system outages and faster application performance.
- Access to the latest technology in hardware, resulting in better data compression, deduplication, and, ultimately, cost savings on storage.
- Reliability and transparency with growing workloads and business demands.
- Improved security utilizing HPE expertise to proactively manage and support on-premises servers, storage, and networking.

Costs. The following risk-adjusted costs are representative of those experienced by the companies interviewed and reflect the financial analysis associated with the composite organization. All values are reported in the three-year PV:

- **HPE GreenLake Flex Capacity implementation and integration costs totaling approximately $323K.** This included planning, defining requirements, data migration, and testing on the HPE platform. In addition, the implementation time takes into account the internal procurement process requirements. The full end-to-end transition took six months and the equivalent of 12 full-time resources for 40% of their time.
- **HPE GreenLake Flex Capacity annual costs totaling approximately $4.7M.** This included the annual HPE GreenLake Flex Capacity contract across the entire infrastructure, including compute, storage, and backup.

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 HPE GreenLake Flex Capacity.

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 HPE GreenLake Flex Capacity can have on an organization:

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

DUE DILIGENCE
Interviewed HPE GreenLake Flex Capacity stakeholders and Forrester analysts to gather data relative to HPE GreenLake Flex Capacity.

CUSTOMER INTERVIEWS
Interviewed five organizations using HPE GreenLake Flex Capacity 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 HPE GreenLake Flex Capacity'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.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by HPE 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 HPE GreenLake Flex Capacity.

HPE 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.

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

The HPE GreenLake Flex Capacity Customer Journey

BEFORE AND AFTER THE HPE GREENLAKE FLEX CAPACITY INVESTMENT

Interviewed Organizations

For this study, Forrester interviewed five clients using HPE GreenLake Flex Capacity. Interviewed clients include the following:

INDUSTRY	REGION	INTERVIEWEE	INFRASTRUCTURE
Online retailer	Headquartered in Europe	Global network data manager	Global operations, seven data centers, 2 petabytes of storage, 4,200 physical and virtual assets
Chemical company	Headquartered in US	Global data center manager	Global operations, four data centers, 2,000 physical and virtual assets
Consulting/ advisory services	Headquartered in Europe	Storage architect	Two data centers, 3 petabytes of storage, 2,200 physical and virtual assets
Healthcare	Headquartered in Europe	IT operations manager	One data center, 350 terabytes of storage
Manufacturing	Headquartered in Europe	Head IT transformation	15 data centers, 400 terabytes of storage, 250 physical and virtual assets

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 five 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:

- A global multibillion dollar organization with operations across 100 counties.
- Employs 400 total IT employees; 10 full-time equivalents (FTEs) from IT manage the infrastructure.
- Faces end-of-life challenges or significant upgrade expenses for its storage and server environment.

Key assumptions

- Five data centers
- 2 petabytes of storage
- 400 physical assets
- 1,600 virtual servers

Key Challenges

Prior to its investment in HPE GreenLake Flex Capacity, the composite organization had the following challenges:

- **Increased cost due to overprovisioning server and storage capacity.** These included both initial capital costs and higher support costs.

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- **Increased pressure to reduce IT headcounts and budgets.** Organizations could not afford to dedicate resources to routine support and maintenance activities.
- **Constant change in technology**. Organizations were looking to get access to the latest hardware without constantly replacing their existing infrastructure and incurring large capital expenses.
- **Standardization of global operations and transparency** across usage and consumption within the organization.
- **Desire to simplify the IT provisioning process and improve time-to-value.** The existing process was taking too long.
- **An increasing amount of data** needing to be stored and accessed. It was challenging to keep up with storage requirements to support growth.

Solution Requirements

The composite organization searched for a solution that could:

- **Accelerate** its transformation to the cloud.
- **Reduce risk and provide control** of key workloads and data living on-premises.
- **Expand current capacity** without investing into the on-premises infrastructure.
- **Allow organizations to scale or downsize** as required by business.
- **Standardize capabilities** across the organization.
- **Improve how organizations pay for capacity**, including pay for what is being used and a single invoice across data centers.
- **Reduce/remove the burden of capacity planning**.
- **Improve IT productivity** to have resources focus on value-added tasks rather than routine tasks.

Key Results

Key quantified results from the HPE GreenLake Flex Capacity investment for the composite organization include:

- Increased net-new revenue due to faster time-to-market.
- Capex savings due to eliminated need for overprovisioning.
- Reduced cost of support/professional services.
- Increased IT team productivity by eliminating the need to support the data centers.

> "Setting up and managing a data center is complex, frustrating, and sucks a lot of time from our internal resources. Partnering with HPE has allowed us to get experts on our side so our internal resources can focus on more value-added and strategic initiatives."
>
> *Head IT transformation, manufacturing company*

> "HPE GreenLake Flex Capacity has provided us with better performance, lower support costs, and eliminated what used to be a cumbersome process of ordering and procuring new hardware. HPE makes it very easy to get the capacity we need."
>
> *Storage architect, global consulting company*

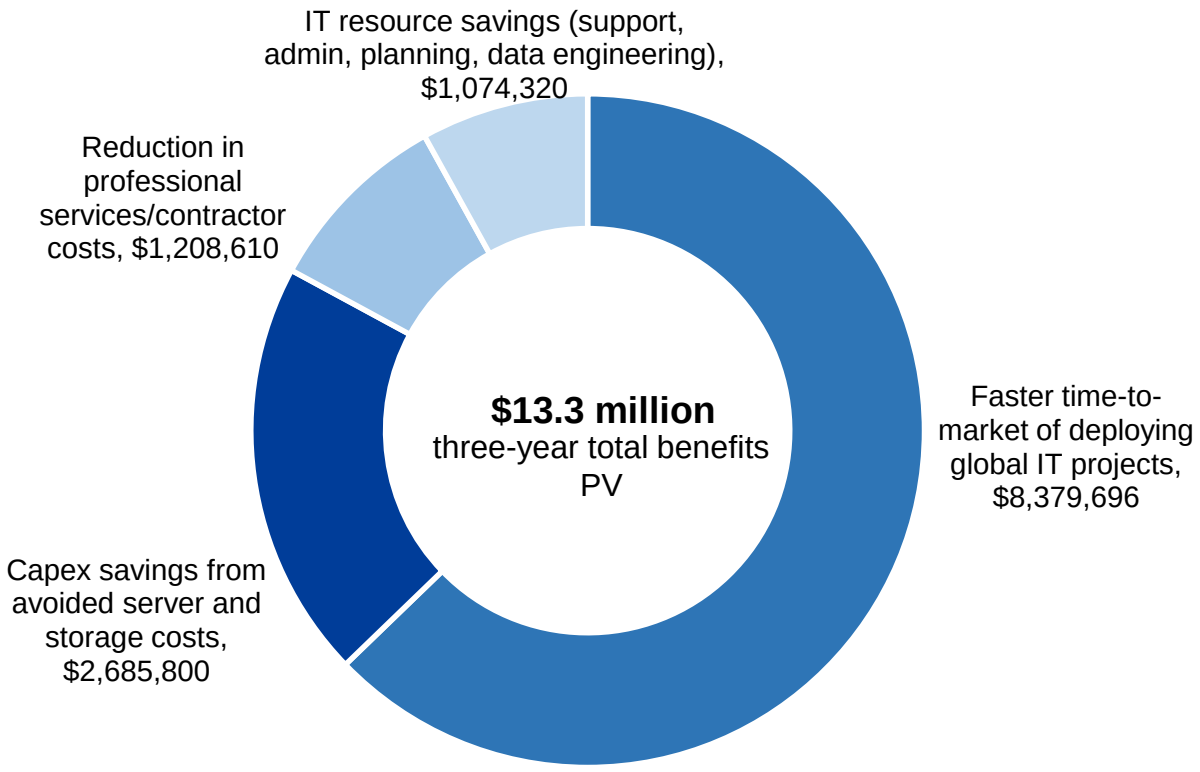
Financial Analysis

QUANTIFIED BENEFIT AND COST DATA AS APPLIED TO THE COMPOSITE

Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Faster time-to-market of deploying global IT projects	$3,369,600	$3,369,600	$3,369,600	$10,108,800	$8,379,696
Btr	Capex savings from avoided server and storage costs	$1,080,000	$1,080,000	$1,080,000	$3,240,000	$2,685,800
Ctr	Reduction in professional services/contractor costs	$486,000	$486,000	$486,000	$1,458,000	$1,208,610
Dtr	IT resource savings (support, admin, planning, data engineering)	$432,000	$432,000	$432,000	$1,296,000	$1,074,320
	Total benefits (risk-adjusted)	**$5,367,600**	**$5,367,600**	**$5,367,600**	**$16,102,800**	**$13,348,426**

The table above shows the total of all benefits across the areas listed below, as well as present values discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to have a PV of $13.3M.



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Faster Time-To-Market Of Deploying Global IT Projects

Several interviewed organizations told Forrester that launching new IT projects to market with legacy infrastructure generally required extensive capacity planning, provisioning of additional infrastructure, and data center management. While the time varied by project and organization, an average global IT project could take up to six months to implement including accounting for the large time organizations dedicated towards the procurement process for additional capacity requirements.

Customers interviewed for this study noted a significant decrease in time-to-market for the global IT projects after the HPE GreenLake Flex Capacity investment.

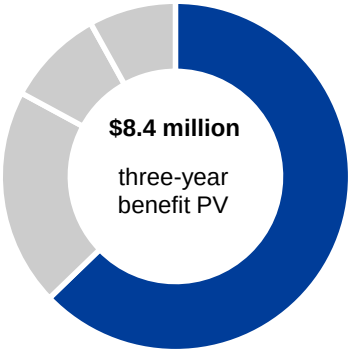
For the composite organization, Forrester assumes:

- Thirty global IT projects were executed each year, including product development, new product launches, customer experience improvements, etc.
- Eighty percent of global projects required additional infrastructure.
- IT needed, on average, four months to launch a project.
- Six IT resources were involved in a project from start to finish, full-time.
- The average rate of an IT resource was $10,000 per month.
- With HPE GreenLake Flex Capacity, the time required to launch a project decreased by 65%.

Faster time-to-market can be influenced by:

- The types and complexity of projects and the resources required to complete these projects.
- Current capacity of the infrastructure to support a new project.

To account for this, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $8.4M.



Faster time-to-market of deploying global IT projects: **63%** of total benefits

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.

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Faster Time-To-Market Of Deploying Global IT Projects: Calculation Table					
REF	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Number of global IT projects (product development, customer experience, new product launches, finance)		30	30	30
A2	Percent of global projects needing additional infrastructure		80%	80%	80%
A3	Time per project in months prior to HPE GreenLake Flex Capacity		4	4	4
A4	Number of IT resources required per project		6	6	6
A5	Monthly burden rate of IT resources		$10,000	$10,000	$10,000
A6	Saving in time with HPE GreenLake Flex Capacity		65%	65%	65%
At	Faster time-to-market of deploying global IT projects	A1*A2*A3*A4*A5*A6	$3,744,000	$3,744,000	$3,744,000
	Risk adjustment	↓10%			
Atr	Faster time-to-market of deploying global IT projects (risk-adjusted)		$3,369,600	$3,369,600	$3,369,600

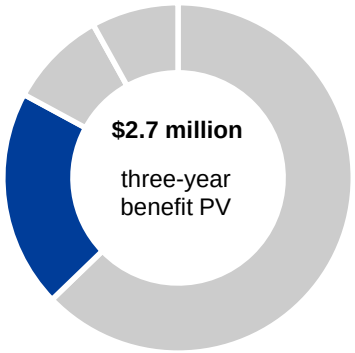
Capex Savings From Avoided Server And Storage Costs

Most interviewed IT departments primarily needed to provide their organizations with infrastructures able to support business growth. Interviewees mentioned over- and under-provisioning for capacity as a recurring issue. While not having enough capacity puts obstacles in the way of new business projects, paying for unused capacity leads to waste of an organization's resources.

Additionally, several organizations recognized that their on-premises infrastructure was becoming obsolete and demonstrated inferior performance. As the hardware was aging, organizations faced costly piece-by-piece technology upgrades that could cause downtime and business disruption.

By switching from traditional, fully managed on-premises IT models to HPE GreenLake Flex Capacity, organizations recognized the following benefits:

- **Avoided risk of over- or under-provisioning capacity.** With HPE GreenLake Flex Capacity, IT teams no longer ran the risk of over- or under-provisioning server and storage hardware. HPE GreenLake Flex Capacity allowed organizations to scale their usage up or down as needed and only pay for what was used.



Capex savings from avoided server and storage costs: **20%** of total benefits

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› **Avoided costs of hardware refreshes to maintain needed performance levels.** With HPE GreenLake Flex Capacity, the organization got access to the latest technology and hardware based on their needs which reduced the occurrences to replace current hardware to maintain needed performance levels, saving additional hardware costs to organizations.

For the composite organization, Forrester assumes:

› On average, annual server and storage hardware capex prior to HPE was $4 million.

› On average, the composite organization purchased 30% additional hardware per year.

› The organization achieved average capex savings from avoided storage and server costs of 15% using HPE GreenLake Flex Capacity.

Reductions in average cost per contact can be influenced by:

› The amount of server and storage hardware capex.

› The need for overprovisioning for infrastructure and old hardware replacement.

To account for this, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $2.7M.

Capex Savings From Avoided Server And Storage Costs: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Physical assets: server and storage hardware capex per year prior to HPE GreenLake Flex Capacity		$4,000,000	$4,000,000	$4,000,000
B2	Avoided cost of purchasing additional server and storage hardware		30%	30%	30%
Bt	Capex savings from avoided server and storage costs	B1*B2	$1,200,000	$1,200,000	$1,200,000
	Risk adjustment	↓10%			
Btr	**Capex savings from avoided server and storage costs (risk-adjusted)**		**$1,080,000**	**$1,080,000**	**$1,080,000**

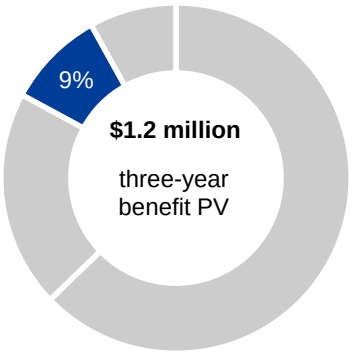
Reduction In Professional Services/Contractor Costs

Interviewed organizations highlighted the cost savings recognized from discontinued use of professional services required to configure and manage the infrastructure prior to adopting HPE GreenLake Flex Capacity. By switching to HPE GreenLake Flex Capacity, users eliminated costs associated with support fees and add-on professional service fees.

For the composite organization, Forrester assumes:

› On average, server and storage hardware cost $4 million.

› The average cost of in-house support or contractor/professional services was 15% of the physical assets investment.



› After adopting HPE GreenLake Flex Capacity, the composite organization cut back the infrastructure support cost by 90%.

The magnitude of this benefit may vary for other organizations due to:

› Internal maintenance resources and need for professional services.

› The value of server and storage hardware.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $1.2M.

Reduction in professional services/contractor costs: **9%** of total benefits

Reduction In Professional Services/Contractor Costs: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
C1	Physical assets: server and storage hardware capex per year prior to HPE GreenLake Flex Capacity		$4,000,000	$4,000,000	$4,000,000
C2	Estimated professional services/ contractor cost as percentage of annual capex spend prior to HPE GreenLake Flex Capacity		15%	15%	15%
C3	Reduction in professional services/ contractor costs		90%	90%	90%
Ct	Reduction in professional services/ contractor costs	C1*C2*C3	$540,000	$540,000	$540,000
	Risk adjustment	↓10%			
Ctr	**Reduction in professional services/ contractor costs (risk-adjusted)**		**$486,000**	**$486,000**	**$486,000**

IT Resource Savings (Support, Admin, Planning)

All interviewed organizations experienced a reduction in IT resources required for infrastructure-related tasks with HPE GreenLake Flex Capacity, as compared to legacy on-premises solutions. One customer explained that since the heavy lifting in the data center management, including support, admin, and planning shifted to HPE Pointnext support, the internal IT team could take on a more strategic role.

For the composite organization, Forrester assumes:

› A team of 10 IT resources supported infrastructure.

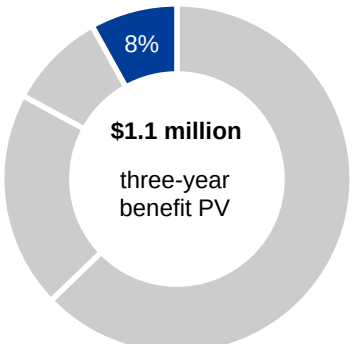
› Forty percent of IT resources were reallocated from data center management.

The magnitude of this benefit may vary for other organizations due to:

› Size of dedicated IT department and average fully burdened salary.

› Percent of resource reallocation depending on existing IT team skill set.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $1.1M.



IT resource savings (support, admin, planning, data engineering): **8%** of total benefits

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IT Resource Savings (Support, Admin, and Planning): Calculation Table					
REF.	**METRIC**	**CALC.**	**YEAR 1**	**YEAR 2**	**YEAR 3**
D1	Number of IT resources supporting infrastructure		10	10	10
D2	Yearly FTE burdened rate		$120,000	$120,000	$120,000
D3	IT resource reallocation		40%	40%	40%
Dt	IT resource savings (support, admin, planning, data engineering)	D1*D2*D3	$480,000	$480,000	$480,000
	Risk adjustment	↓10%			
Dtr	**IT resource savings (support, admin, and planning) (risk-adjusted)**		**$432,000**	**$432,000**	**$432,000**

Unquantified Benefits

Interviewed organizations experienced the following unquantified benefits:

- **Improved business productivity.** Interviewed organizations reported experiencing fewer system outages and faster application speeds after moving to HPE GreenLake Flex Capacity, both of which have a direct impact on an organization's productivity.
- **Latest technology in hardware**. Several interviewees told Forrester that after the initial migration to HPE GreenLake Flex Capacity, hardware refreshes were performed at no additional charge and with no downtime, allowing for improved performance, data compression, deduplication, and, ultimately, cost savings. The organization could not quantify the benefit.
- **Reliability and transparency with growing workloads and business demands.** HPE GreenLake Flex Capacity allowed global organizations to consolidate their data centers and simplified the invoicing process. IT leadership received full visibility into each location's usage and demands, which, in turn, simplified global resource allocation and billing.
- **Improved security.** HPE GreenLake Flex Capacity allows organizations to take advantage of HPE Pointnext support resources and expertise, which securely protect organizations' infrastructure and valuable data.

Flexibility

The value of flexibility is clearly unique to each client, and the measure of its value varies from organization to organization. There are multiple scenarios in which a client might choose to implement HPE GreenLake Flex Capacity and later realize additional uses and business opportunities, including:

- **Capacity to take on new business initiatives.** With infrastructure planning, implementation, and support burden lifted from their shoulders, IT professionals at interviewed organizations could dedicate their time to business projects they previously could not take on, including new product and service launches, enhancements to existing products, and improvements to customer experience.
- **Standardization.** With HPE GreenLake Flex Capacity, organizations can standardize consumption and IT infrastructure planning and reporting across regions, business units, and product offerings. This provides IT leadership with a consistent view of their IT footprint and provides them with the ability to plan and forecast better.

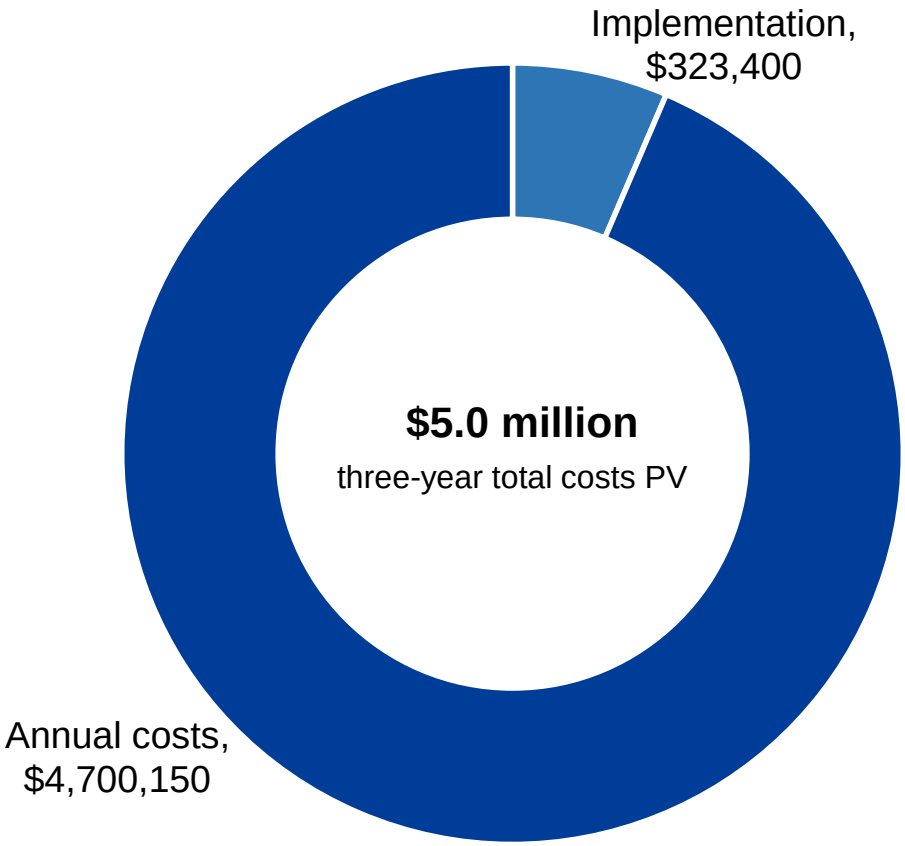
Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

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.

Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Etr	Implementation	$323,400	$0	$0	$0	$323,400	$323,400
Ftr	Annual costs	$0	$1,890,000	$1,890,000	$1,890,000	$5,670,000	$4,700,150
	Total costs (risk-adjusted)	$323,400	$1,890,000	$1,890,000	$1,890,000	$5,993,400	$5,023,550

The table above shows the total of all costs across the areas listed below, as well as present values discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to have a PV of $5.0M.



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Implementation

Interviewed organizations required from two to five months to transition to HPE GreenLake Flex Capacity, including planning and defining requirements, data migration, and testing. In addition, time to go through the originations procurement process is also reflected in the overall implementation timeline. The number of FTEs involved in the transition was similar across the organizations. HPE charges a fixed nonrecurring price for implementation.

For the financial model, Forrester estimates:

- It took six months to transition from on-premises data centers to HPE GreenLake Flex Capacity.
- Twelve FTEs were involved in HPE implementation for 40% of their time.

These costs may vary based on the scope of the business, complexity of integration, and internal IT resources.

To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year risk-adjusted total PV of $323,400.

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.

Implementation: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Implementation time (months)		6			
E2	Number of internal FTEs		12			
E3	Percentage of time dedicated		40%			
E4	FTE salary (per month)		$10,000			
E5	Fixed HPE cost to support implementation		$20,000			
Et	Implementation	E1*E2*E3*E4+E5	$308,000	$0	$0	$0
	Risk adjustment	↑5%				
Etr	Implementation (risk-adjusted)		$323,400	$0	$0	$0

Annual Costs

The HPE GreenLake Flex Capacity monthly cost is determined by usage and varies based on the infrastructure size and configuration. It can fluctuate from month to month based on usage peaks and lows.

For the composite organization, Forrester uses an average monthly cost of $150,000. The cost may vary due to contract terms as well as the volume of storage and compute used.

To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year risk-adjusted total PV of $4,700,150.

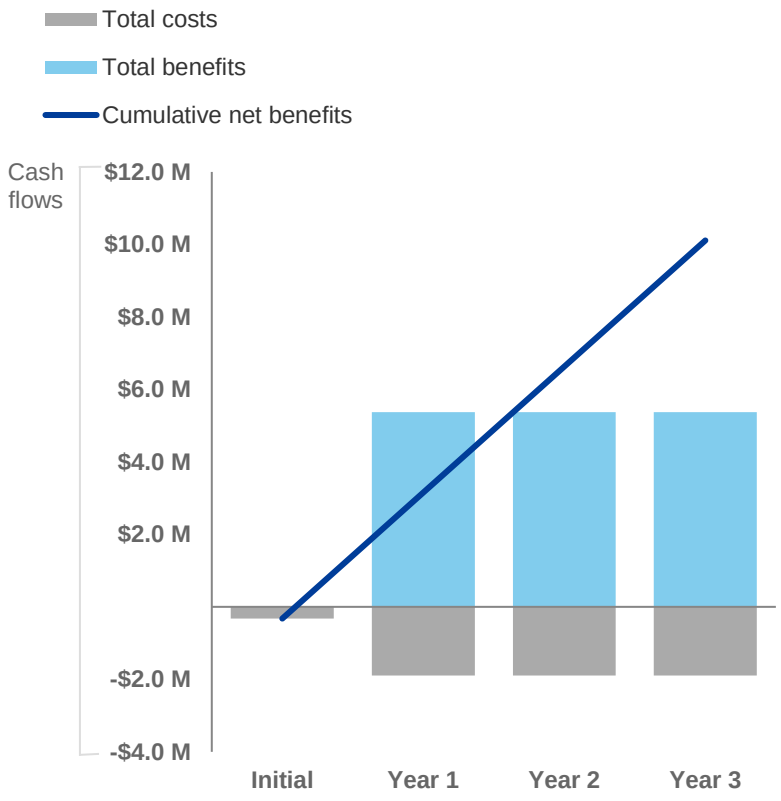
Annual Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
F1	HPE GreenLake Flex Capacity: average monthly usage costs			$150,000	$150,000	$150,000
F2	Number of months			12	12	12
Ft	Annual costs	F1*F2	$0	$1,800,000	$1,800,000	$1,800,000
	Risk adjustment	↑5%				
Ftr	Annual costs (risk-adjusted)		$0	$1,890,000	$1,890,000	$1,890,000

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	($323,400)	($1,890,000)	($1,890,000)	($1,890,000)	($5,993,400)	($5,023,550)
Total benefits	$0	$5,367,600	$5,367,600	$5,367,600	$16,102,800	$13,348,426
Net benefits	($323,400)	$3,477,600	$3,477,600	$3,477,600	$10,109,400	$8,324,876
ROI						166%
Payback period						<6 months

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HPE GreenLake Flex Capacity

The following information is provided by HPE. Forrester has not validated any claims and does not endorse HPE GreenLake Flex Capacity or its offerings.

Whether you're building infrastructure from scratch, consuming it from the cloud, or navigating **hybrid IT**, you'll experience benefits and trade-offs with each of these different approaches. **HPE GreenLake**, however, takes IT consumption in a new direction entirely, delivering the IT experience you're looking for — but without compromise.

HPE GreenLake offers a catalog of predesigned, end-to-end solutions, such as Big Data, Backup, and Database with EDB Postgres, that simplify the IT experience by delivering a cloud-like consumption model on-premises. Because predesigned solutions do not fit every business, **HPE** also offers fully customizable infrastructure modules that deliver greater technology choice depending on IT preferences. With HPE **GreenLake Flex Capacity,** you design your own infrastructure solutions, selecting from a broad range of HPE and partner technologies, as well as optional services that span your infrastructure to your apps and workloads.

If you need a pay-per-use infrastructure solution but don't know where to start, you can take advantage of preconfigured infrastructure packages, such as HPE ProLiant for Microsoft® Azure® Stack, HPE Synergy 480 Compute Modules, or HPE SimpliVity 380, just to name a few. These packages leverage standard configurations based on common business requirements for easy ordering and fast deployment.

First, you specify the infrastructure you want, based on your environment and needs. **HPE Pointnext** experts will then design, implement, and, if desired, even manage the solution for you — tying many of the components into a single HPE GreenLake Flex Capacity metric. Variable payments are based on actual metered usage. You gain rapid scalability using an on-site buffer of extra capacity. All of this is delivered on-premises for greater security and control.

In addition to core compute and storage, HPE Pointnext has expanded the offering to deliver contemporary infrastructure solutions such as High Performance Compute (HPC), containers, and your choice of VM. Get the most up-to-date and cutting-edge technologies as pay-per-use infrastructure solutions, managed for you, in your own environment.

World-Class Expertise From HPE Pointnext

Every HPE GreenLake Flex Capacity solution comes with enterprise-grade support from HPE Pointnext, with 24x7 monitoring and active capacity management to ensure that your solution grows with business needs.

Need extra help? You can tailor services from HPE Pointnext to add resources and expertise when and where it's needed — from your infrastructure to your apps and workloads. **HPE Adaptive Management Services** offers a large catalog of services to augment your IT organization, including monitoring, operations, administration, and optimization of your full IT stack.

Experience The Best Of Both Worlds

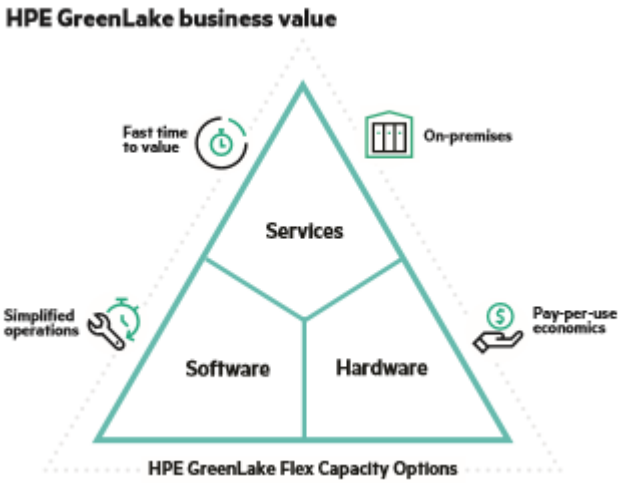
Outcome-based **IT consumption** delivers a range of benefits that you can't get from solutions solely built from scratch or bought from the public cloud. Delivering the best of both worlds, HPE GreenLake enables:

• **Faster time-to-value** with solutions that are ready quickly, and evolve ahead of your needs.

• **Better economics** with a flexible, pay-per-use model that offers simplicity and financial clarity.

• **On-premises** for proper control over compliance, performance, and security.

• **Simplified IT** that's operated for you, to free up resources and add business value.



The HPE Pointnext Advantage

HPE Pointnext, the services organization of Hewlett Packard Enterprise, brings you the expertise needed to help you make hybrid IT simple. Combined with HPE heritage and leadership in consumption-based IT, strength in infrastructure, and partner ecosystems, HPE Pointnext professionals can help you deliver better outcomes faster.

Learn more at hpe.com/services/flexiblecapacity

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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.

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Appendix B: Endnotes

[1] Forrester Research: The Cloud Computing Playbook For 2018. For Infrastructure & Operations Professionals

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