

Economic Validation

The Economic Benefits of Modernizing with Pure FlashStack Hybrid-cloud Infrastructure

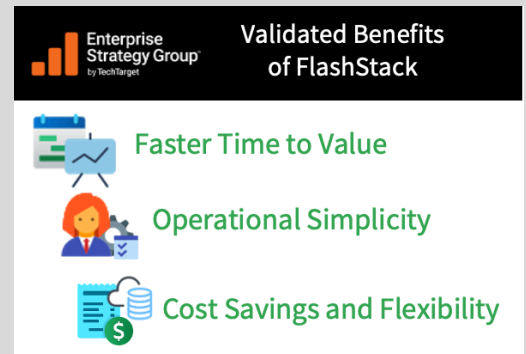
By Aviv Kaufmann, Principal Validation Analyst
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Executive Summary

Modern IT organizations struggle to support legacy applications while also providing a platform for modern hybrid-cloud applications and services. Trying to do so on legacy infrastructure is complex, costly, and inefficient. The right choice of modern, software-defined infrastructure can deliver cloudlike agility, flexibility, simplicity, and economics while better enabling hybrid-cloud operations.

TechTarget's Enterprise Strategy Group (ESG) validated that, with the latest generation FlashStack Hybrid-cloud Infrastructure from Cisco and Pure Storage, organizations can consolidate existing workloads and storage onto a smaller footprint and scale to meet the needs of modern and next-gen workloads. FlashStack comes pretested and prevalidated and provides scalable performance and future-proof technology with simplified AI-driven operations.

We found that the latest generation FlashStack can provide significant savings and benefits for organizations through faster time to value, reduced operational complexity, cost savings, and flexibility. We expect that, by modernizing to FlashStack hybrid-cloud infrastructure, organizations can better enable the business, reduce operational costs, and help reduce risk of downtime and business impact.



Introduction

This Enterprise Strategy Group (ESG) Economic Validation focuses on the quantitative and qualitative benefits organizations can expect from deploying FlashStack Hybrid-cloud Infrastructure from Pure and Cisco in their data centers and public and private clouds.

Challenges

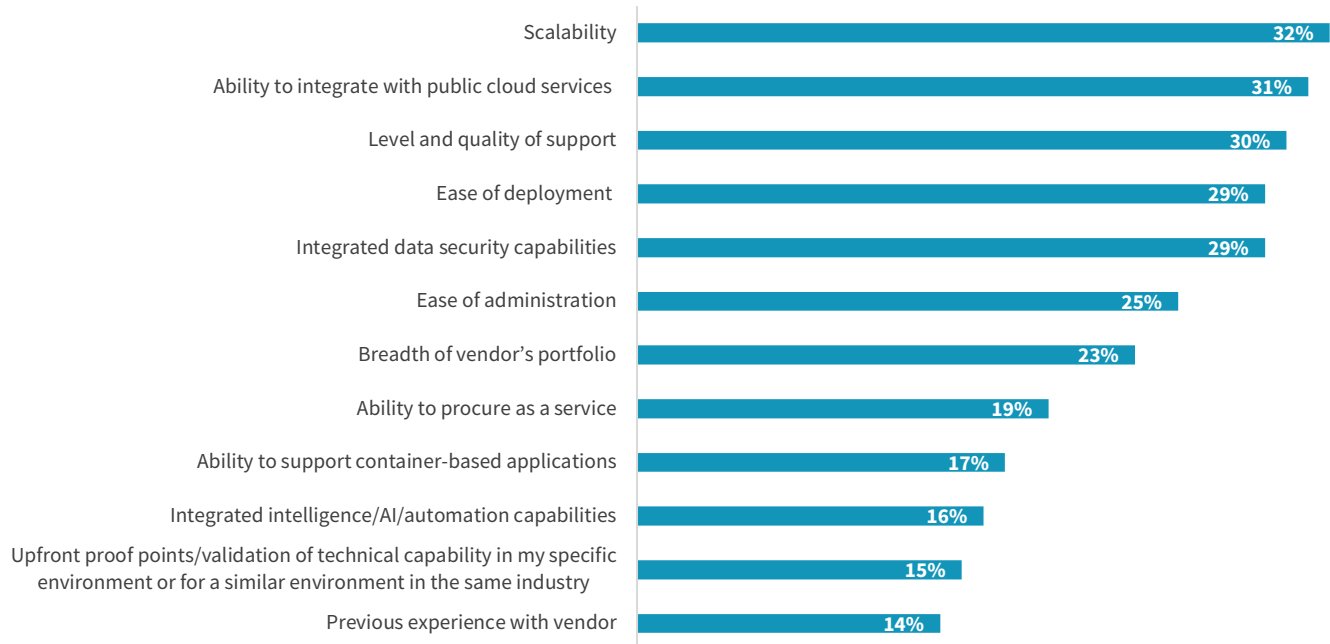
To keep pace with the velocity and variety of ever-changing business demands, IT organizations understand that it is not feasible to continue to operate with the same infrastructure and workflows that they did just a few years ago. There is a need for IT organizations to modernize as part of their digital transformation initiatives to operate more as a service to the business and deliver cloudlike agility and experiences for applications, services, business units, and customers. But this brings about challenges for established organizations supporting on-premises data centers built on legacy infrastructure. Often technology silos and management complexity result in roadblocks to innovation. Organizations must support legacy applications, but aging infrastructure is costly to operate and maintain, inefficient, and difficult to scale, resulting in *technical debt*—or the cost currently being paid for technology choices made in the past. These teams have relied on manual tasks, workflows, and tribal knowledge provided by experienced resources that are difficult to train and retain. IT teams need to spend more time focusing on the applications and data rather than on the infrastructure it runs on, but choosing the right infrastructure to deliver modern hybrid-cloud operations upon is critical.

According to Enterprise Strategy Group (ESG) research, the top buying criteria driving modern data center infrastructure purchasing include scalability, the ability to integrate with public cloud services, the level and quality of support, ease of deployment, integrated data security capabilities, and ease of administration. In addition to these top criteria, there is also interest in being able to procure infrastructure as a service (IaaS), the ability to support container-based applications, and integrated intelligence/AI/automation capabilities.¹

¹ Source: Enterprise Strategy Group Research Report, [Data Infrastructure Trends](#), November 2021.

Figure 1. Top Buying Criteria for Data Center Infrastructure

Which of the following buying criteria will have the greatest influence on your organization’s data center infrastructure purchase? (Percent of respondents, N=303, three responses accepted)



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Modern infrastructure platforms have to be capable of delivering cloudlike agility, flexibility, simplicity, and economics while meeting performance and availability service-level agreements. They need to be disaggregated to allow for flexibility and agility, simply managed as a single entity, and able to leverage AI-driven intelligence and automation to simplify and speed operations. In addition, all hardware components should be capable of being upgraded nondisruptively so that customers can architect once and innovate continuously, expanding features and functionality to support or adopt new business imperatives without having to redesign their infrastructure first.

The Solution: FlashStack

FlashStack is a software-defined hybrid-cloud infrastructure solution and holistic alternative to status quo converged and hyper-converged infrastructure offerings. Developed jointly by Pure Storage and Cisco, FlashStack provides best-of-breed components that have been pretested and validated for the most popular and demanding workloads.

FlashStack is AI-managed and discreetly provisioned, and it can be consumed as a service with no upfront costs. It scales without disruption as your business grows and provides a powerful, reliable platform for an organization’s cloud, business-critical applications, DevOps, and modern analytics—right out of the box.

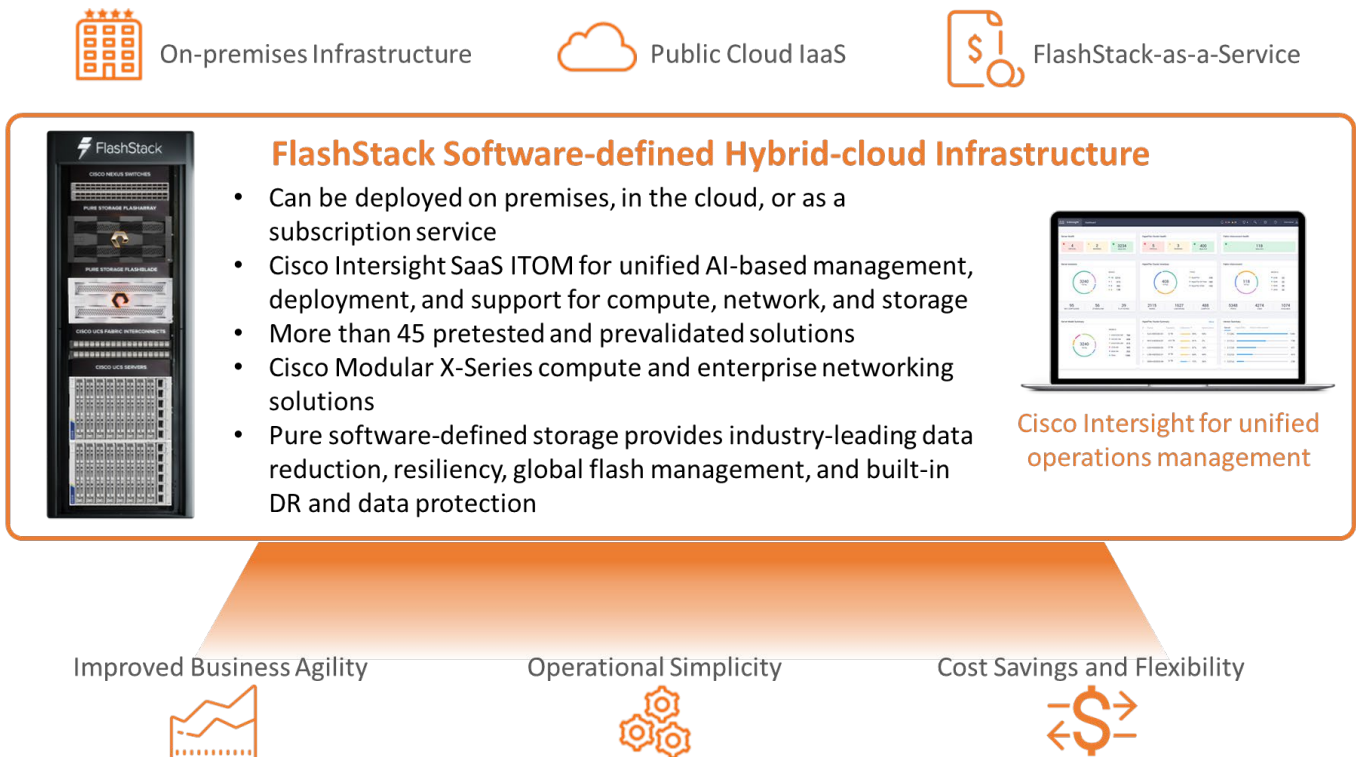
Pure’s software-defined storage (SDS) architecture decouples storage software from its hardware, giving organizations greater scalability, flexibility, and control over their data storage infrastructure. FlashStack delivers a software-defined solution featuring the following benefits:

- A single interface that manages storage, compute, and network layers.
- Consumption monitored and managed in real time.
- Industry-leading data reduction.

- Tier 1 resiliency with zero performance loss.
- Built-in disaster recovery (DR) and protection.
- Global flash management.

Advanced automation and Cisco Intersight AI-based management uses analytics to optimize resource usage and deliver continuous metering and monitoring for the organization, delivering transparency into usage and costs across all locations for compute, network, storage, and applications.

Figure 2. FlashStack Hybrid-cloud Infrastructure by Cisco and Pure Storage



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Enterprise Strategy Group Economic Validation

Enterprise Strategy Group (ESG) completed an economic analysis project to validate how FlashStack provides organizations with a modern, hybrid-cloud infrastructure solution that enables them to simplify IT operations and reduce cost while exceeding the needs of ever-expanding modern business requirements and timelines.

ESG’s Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages ESG’s core competencies in market and industry analysis, forward-looking research, and technical/economic validation. ESG reviewed existing customer case studies and leveraged previously conducted research projects and in-depth interviews with end users to better understand and quantify how FlashStack has impacted their organizations, particularly in comparison with previously deployed and/or experienced solutions.

FlashStack Economic Overview

This economic analysis by Enterprise Strategy Group (ESG) revealed that FlashStack provides a scalable and flexible platform that enables organizations to realize the full potential of a modern hybrid-cloud strategy. ESG found that FlashStack provided its customers with significant savings and benefits in the following categories:

- **Improved Business Agility** – FlashStack provides organizations with faster time to value to better support changing business needs while helping the organization to reduce risk and shorten the path to complete modernization and sustainability initiatives.
- **Operational Simplicity** – FlashStack greatly reduces the burden on IT to deliver services through unified management and intelligent automation of operations, as well as the potential to have infrastructure fully managed as a service.
- **Cost Savings and Flexibility** – FlashStack helps to reduce and optimize costs for organizations and offers flexibility to choose between traditional CapEx purchasing and predictable OpEx billing, or a combination of both.



Improved Business Agility

FlashStack hybrid-cloud infrastructure helps minimize the time to value so that organizations can better innovate to match the accelerated pace of modern business and meet increasingly demanding workload requirements. With FlashStack, the business is also in a better position to reduce the risk of business disruption and more quickly realize the benefits of IT modernization and sustainability initiatives:

- **Faster Time to Value** – FlashStack provides more than 45 pretested and preconfigured solutions, which greatly reduces IT risk with faster planning and acquisition, as well as more certain installation and deployment. Customers realize significantly faster time to market for new products and services and have the ability to act on new and accelerated growth opportunities where they otherwise may not have been able to achieve. This can have a direct positive impact on increasing revenue and improving customer satisfaction.
- **Faster Path to Modernization** – IT modernization starts with infrastructure that is capable of supporting modern workloads. FlashStack infrastructure deployed in the data center provides an easy-to-manage hybrid-cloud platform that can simultaneously support both legacy and modern cloud-native applications as they are refactored and containerized. Portworx by Pure Storage enables true modern hybrid and multi-cloud workload portability with a data services platform built for Kubernetes. By not having to deal with the complexity of deploying, managing, and maintaining siloed infrastructure and struggling to migrate data and workloads between clouds, IT resources are free to work on modern initiatives that provide greater value to the organization. The organization maintains sovereignty over its data and benefits from improved intelligence and visibility into modern applications and services.
- **Reduced Business Risk** – For modern organizations, any disruption to services or a reduction in service levels can result in a negative impact to revenue, customer satisfaction, and brand reputation. FlashStack infrastructure allows IT to scale compute, servers, and storage up or down to meet changing demands of the

“When application and service owners saw the improvements, it got around and all of a sudden every application and service owner wanted to run their workloads on Pure.”

business without impacting operations. Nondisruptive upgrades happen behind the scenes without the need for planning or downtime. Pure Storage provides the highest levels of availability and data protection, encryption, and immutable snapshots, and Cisco’s cybersecurity solutions guard against intrusion, viruses, malware, and ransomware—further reducing risk to the organization. FlashStack is designed to operate well into the future with the X-Series chassis designed to accommodate future technologies and Pure Storage Evergreen//Forever subscriptions, ensuring that customers are always benefiting from the latest innovations in technology without having to rip and replace infrastructure.

- **Faster Realization of Sustainability Goals** – Environmental sustainability is a top priority for many technology organizations. FlashStack is designed to consolidate workloads running on aging and inefficient hardware and significantly reduces the data center footprint through denser designs and proven data reduction technologies. This results in a clear reduction in the environmental impact of the data center, including greatly reduced electrical consumption for power and cooling and less waste produced through improved reliability of components and the responsible disposal and recycling of hardware components by Cisco and Pure Storage, both of which have documented their commitment to sustainable practices.



Operational Simplicity

FlashStack infrastructure and workloads are easily managed with Intersight rather than through multiple interfaces and full-stack automation, and orchestration and AI-driven intelligence remove much of the burden of managing, monitoring, and maintaining hybrid-cloud operations:

- **Simplified and Unified Management** – A single Intersight cloud interface can be used to manage all infrastructure operations, from the data center, to collocated facilities, to public cloud. Everything from applications, containers, VDI, servers, network, storage, to support can be managed within Intersight. AppDynamics provides application monitoring and management, and even containers can be managed from within the same console. Built-in and always-on data protection with immutable snapshots reduce the operational burden of protecting the system and data—without ever leaving the Intersight console.
- **Automation and Intelligence** – Automation and orchestration make tasks simpler across the full stack (compute, network, and storage), resulting in lower operational overhead, quicker operations, and reduced risk of manual errors. Insight Intelligent AI-powered software learns and optimizes resource usage; provides full visibility of applications, storage, servers, and cloud compute; and helps to keep things running with the highest levels of availability and performance, which lowers the requirement for expert resources to tune and optimize components. Pure1 AI-powered storage management simplifies maintenance, monitoring, and support.
- **Fully Managed Infrastructure Option** – With the FlashStack-as-a-Service (FSaaS) option, IT resources can be further freed from having to deploy, manage, and maintain infrastructure. This can free existing IT resources to learn new skills and make a bigger impact on the business, and can enable the business to avoid growing staff and training new resources to manage the infrastructure.

“Our team should be 15 FTE, but we are only 9 for both servers and storage. We couldn't do and support what we have if we didn't have Pure and Cisco. They keep it simple; it's really hands off.”



Cost Savings and Flexibility

FlashStack provides organizations with a number of flexible choices to better accommodate the financial model that makes the most sense for each deployment, helps to keep billing and payments simple, and provides a number of ways to help optimize resources and keep costs low for organizations:

- **Cost Flexibility** – Businesses are free to decide to make purchases through upfront CapEx purchases, monthly OpEx subscriptions, or a combination of both. The FSaaS option is simple to start; there is no upfront capital spend, no overprovisioning and overspending for future growth or performance, and no lease required. Simple on-demand consumption-based pricing is transparent, does not impact the balance sheet, and reduces risk. Pure’s Evergreen//Forever subscription option eliminates risky forklift upgrades and ensures that organizations always take advantage of the latest storage technologies.
- **Simplified Billing/Payment** – FlashStack-as-a-Service provides a single consolidated bill for all products, services, and support, making financial management simpler for businesses and providing a single entity to deal with rather than many. Low-risk terms on contracts make things simpler to justify and help to avoid lock-in.
- **Cost Optimization** – FlashStack provides customers with the tools and features that can help minimize costs through optimization and consolidation. Insight’s AI-driven management leverages analytics to help optimize resource utilization and get the most from the available hardware, delaying the need to purchase additional hardware until it is required. Pure Storage provides cost predictability through all-inclusive software, and AppDynamics and Workload Optimization Manager from Cisco ensure the most value is received from existing hardware resources by ensuring visibility and performance of application workloads.
- **Reduce or Eliminate Data Center Costs** – Deploying FlashStack infrastructure or consolidating previous-generation compute and storage infrastructure results in reduced power, cooling, and floorspace costs. Alternatively, organizations can choose to reduce or eliminate their data center footprint by moving workloads to colocations and/or the public cloud.

ESG has validated greater than 3-to-1 server consolidation with Cisco X-Series and 4-to-1 storage consolidation with Pure, helping customers reduce power and cooling costs by up to 74%.

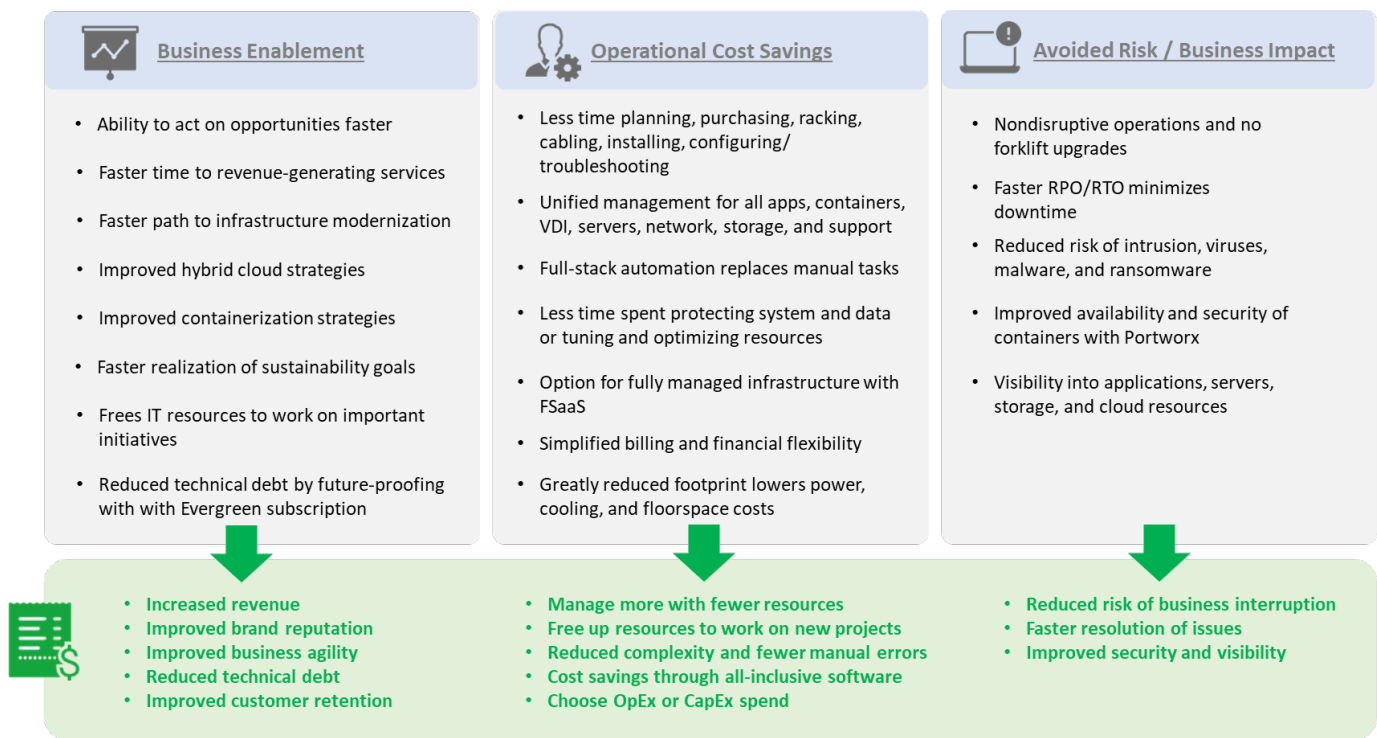
Economic Analysis

The savings and benefits validated by Enterprise Strategy Group (ESG) and described in the previous section have the potential to positively affect the business in several ways:

- **Business Enablement** – FlashStack, which provides faster time to value and improved business agility, enables the business to act on opportunities and develop products and features faster, which can result in a positive impact on revenue streams. FlashStack also enables businesses to meet their digital transformation, modernization, and sustainability goals more quickly, resulting in improved business agility, improved product quality, and, ultimately, improved brand reputation. Also, by ensuring continuous innovation with Cisco X-Series and Pure Evergreen//Forever subscriptions, technical debt can be better avoided.

- **Operational Cost Savings** – FlashStack leverages intelligence and automation through a single unified management interface to reduce IT complexity, enabling organizations to manage more applications, workloads, and storage with fewer resources. This frees existing resources to spend more time innovating and working on new projects. The option for fully managed FSaaS can offload even more from existing teams, and the greatly reduced footprint lowers power, cooling, and floorspace costs. FlashStack also offers organizations flexible options to help shift complex CapEx spend to simple, monthly OpEx spend.
- **Avoided Risk and Business Impact** – FlashStack provides reduced risk of business interruption with highly available components and nondisruptive operations. All-inclusive software provides data protection and disaster recovery software to ensure greater availability for all workloads, as well as faster RPOs and RTOs. Cisco and Pure technologies help to better protect against intrusions, viruses, malware, and ransomware, and Intersight and Pure1 provide greater visibility into workloads and resources, helping to provide faster time to identification and remediation of issues.

Figure 3. Summary of Expected Benefits to the Business Provided by FlashStack



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

The Bigger Truth

For organizations looking to modernize and support hybrid and multi-cloud operations, containers, and next-gen applications, perhaps the most important choice is choosing the right infrastructure for their data center and managing their operations with an intelligent tool that provides visibility across full-stack infrastructure, clouds, and applications. Making the right choice at this stage helps to reduce the potential of future technical debt and provides the flexibility to move workloads and data to the right place at the right time.

Enterprise Strategy Group (ESG) validated that FlashStack Hybrid-cloud Infrastructure from Cisco and Pure Storage, managed with Intersight, is a great choice for those organizations looking to modernize. This report summarizes the technical and economic benefits that ESG has validated and that customers have reported for the components that comprise FlashStack in several released (or soon-to-be-released) validation reports (listed below), which focus on Cisco X-

Series, Cisco Insight, Pure FlashArray, and Pure Storage Efficiency. We have quantified the expected savings provided by each of these technologies, as well as previous generations of FlashStack.

FlashStack provides significantly faster time to value for your organization, putting it in a better position to react to the changing needs of the business and act on emerging opportunities. It reduces risk and disruption to the business and accelerates the realization of modernization and sustainability initiatives. In addition, hybrid-cloud deployments built on FlashStack infrastructure require considerably less time and effort to deploy, manage, maintain, monitor, operate, scale, and protect. If your IT organization is looking to modernize its hybrid-cloud infrastructure and operations, ESG suggests you consider FlashStack by Cisco and Pure Storage, powered by Intersight.

Previous validation reports:

ESG Validation, *Analyzing the Benefits of Cisco Intersight*, July 2022

ESG Technical Validation, *Cisco UCS X-Series Modular System*, June 2022

ESG Economic Validation, *Analyzing the Economic Benefits of the Pure Evergreen Storage Program*, March 2022

ESG Economic Validation, *Validating the Economics of Improved Storage Efficiency with Pure Storage*, September 2019

ESG Economic Validation, *Quantifying the Value of Pure FlashStack Converged Infrastructure Solution versus Cloud-based IaaS*, March 2019

ESG Economic Validation, *Analyzing the Economic Benefits of Consolidating SQL Server Workloads on Pure Storage FlashArray*, November 2022

ESG Economic Validation, *Analyzing the Economic Benefits of Consolidating Oracle Workloads on Pure Storage FlashArray*, December 2022

ESG Economic Validation, *The Economic Benefits of Modernizing Compute Environments with Cisco X-Series and Insight*, to be published January 2023

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