SOLUTION BRIEF

The FlashStack Data Center

THE CHALLENGE: DATA CENTER COMPLEXITY
Deploying, operating, and maintaining data center infrastructure is complex, time consuming, and costly. The result is a data center architecture that limits business success by limiting application availability, reducing overall productivity, and draining budgets. These challenges are particularly relevant for traditional data center architectures based on aging systems. These systems can be hard to install, difficult or impossible to scale, and complex to manage, and they can disrupt application availability with planned downtime and a “rip-and-replace” upgrade cycle.

A NEW APPROACH: THE FLASHSTACK DATA CENTER
FlashStack™, a Cisco® and Pure Storage® solution, is a streamlined, flexible, transformative approach to IT infrastructure. It fully supports mission-critical enterprise applications and provides a robust platform for cloud services. FlashStack combines the latest in computing, network, storage components into a single, integrated architecture that accelerates time to deployment, lowers overall IT costs, and reduces deployment risk. Highly efficient components such as the Cisco Unified Computing System™ (Cisco UCS®) and Pure Storage FlashArray reduce the costs associated with
power, cooling, and data center space. Based on the latest server technology and 100 percent flash storage, FlashStack provides the performance and reliability that business-critical applications demand. FlashStack is available from Cisco and Pure Storage through accredited FlashStack partners. These partners help provide flexible ownership models, technical expertise, and an excellent converged infrastructure ownership experience.

**Simplicity in implementation and management is one of the biggest benefits we’ve seen. I can manage my storage, network, and compute requirements all on one platform.**”

**JACK HOGAN**
Chief Technology Officer
Lifescript
FLASHSTACK ARCHITECTURES FOR CRITICAL WORKLOADS AND APPLICATIONS

FlashStack is validated with common workloads and applications to reduce deployment risk and help IT organizations quickly and easily deploy the right infrastructure. FlashStack architectures are comprehensively documented and defined in Cisco Validated Designs, which are freely available at cisco.com/go/flashstack and purestorage.com/flashstack.

Additional technical documentation and reference architectures are also available if necessary.

The FlashStack architecture is designed for resilience and high availability to help keep important workloads and applications online and available. The design combines individual components with high availability into a single, redundant architecture and includes tools for simplified backup and recovery operations.

FlashStack is also expertly supported through a range of flexible offerings to help administrators if any issues arise. With FlashStack, IT organizations can deploy critical workloads with confidence and with the understanding that Cisco and Pure Storage have validated and tested the configurations available. We have resolved potential issues so that you can deploy your solution with reduced risk and high confidence.
FlashStack is designed as a high-performance foundation for the delivery of private cloud services. Preintegrated with common cloud platforms including Cisco ONE™ Enterprise Cloud Suite, VMware vRealize Operations, and OpenStack, FlashStack helps IT organizations supply services on demand through automated services portals. FlashStack also supports hybrid clouds, allowing administrators to manage and monitor on-premises, hybrid, and public cloud workloads through management tools such as Cisco CloudCenter.

**DATA CENTER SCALABILITY WITH FLASHSTACK**
An important benefit of FlashStack is its ability to scale, without disruption, from small (2 hosts and 5.5 terabytes [TB] of storage) to very large (more than 160 hosts and more than 1.5 petabytes [PB] storage). FlashStack scales seamlessly with the same management tools, same operational model, and same
underlying systems, whether the deployment is small or large. And as it scales, it keeps the same number of points of management and same resilient, redundant design, so not only do applications stay online, but they are easier to monitor and maintain.

**THE FLASHSTACK DATA CENTER DIFFERENCE**
FlashStack is an excellent platform for delivering mission-critical workloads and empowering users by building on extensible, continuously available, Cisco validated architecture. With FlashStack, IT organizations can upgrade capacity without downtime and deploy cloud-like capabilities to help ensure constant access to data across the organization. Now IT administrators can avoid the rip-and-replace cycle of traditional infrastructure ownership and use familiar, integrated tools to manage the entire data center stack right out of the box. FlashStack solution-based data centers free IT staff to innovate by reducing the amount of time spent on infrastructure, automating common tasks, getting systems up and running in minutes, and keeping them running to support a business’s vital applications.

<table>
<thead>
<tr>
<th>STREAMLINED OPERATIONS</th>
<th>FLEXIBLE GROWTH</th>
<th>CHOICE AND TRANSFORMATION</th>
<th>BUILT FOR THE CLOUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Simplify data center operations and IT infrastructure lifecycle.</td>
<td>• Scale freely, without downtime, as business requirements change.</td>
<td>• Deliver more value to the business, faster.</td>
<td>• Cloud capabilities are built in, including full integration with cloud platforms from Cisco, VMware, OpenStack, and others.</td>
</tr>
<tr>
<td>• Manage everything from one place.</td>
<td>• Essentially eliminate planned downtime.</td>
<td>• Improve user experiences and deliver IT on demand.</td>
<td>• Integrated automation frees administrators to focus on application and service delivery.</td>
</tr>
<tr>
<td>• Reduce risk and lower IT costs.</td>
<td>• Handle demanding critical workloads with ease and without the need for performance tuning.</td>
<td>• Capture technical innovation without having to rip and replace.</td>
<td></td>
</tr>
<tr>
<td>• Remain always on, with always high performance.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**FlashStack**

Microsoft Word - FlashStack Solution Brief 6.16.19.docx

5
**SOLUTION BRIEF**

**PURE STORAGE, INC. 650 CASTRO STREET, MOUNTAIN VIEW, CA 94041**

flashstack@purestorage.com  www.cisco.com/go/flashstack

© 2017 Pure Storage, Inc. Pure Storage, the “P” Logo, and FlashStack are trademarks or registered trademarks of Pure Storage, Inc. in the U.S. and other countries. Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries. All other trademarks are the property of their respective owners.

PS-SB-FlashStackDatacenter-0517-0028v1-LE61701

---

**CISCO UCS FABRIC INTERCONNECTS**

**PURE STORAGE FLASHARRAY//M**

**CISCO UCS SERVERS**

**FLASHSTACK MINI DEPLOYMENTS**
- Smaller Deployments or Specialized Applications
- 8 Cisco UCS B-Series Blade Servers
- 30 TB Flash Storage

**MIDSIZE DEPLOYMENTS**
- Consolidated Virtualized Applications and Desktops
- 24 Cisco UCS B-Series Blade Servers
- 500 TB Flash Storage

**COMPUTE-INTENSIVE DEPLOYMENTS**
- Test and Development, VDI, Heavily Accessed Databases
- 44 Cisco UCS B-Series Blade Servers
- 250 TB Flash Storage

**STORAGE-INTENSIVE DEPLOYMENTS**
- Large Databases and Analytics Data Sets
- 32 Cisco UCS B-Series Blade Servers
- 1.5 PB Flash Storage

---

**STREAMLINED**
Single, integrated architecture with management from one place

**FLEXIBLE**
Easy and dynamic scalability without downtime

**TRANSFORMATIVE**
Technical innovation without the need to rip and replace

**BUILT FOR THE CLOUD**
Integration with cloud platforms from Cisco, VMware, OpenStack, and others