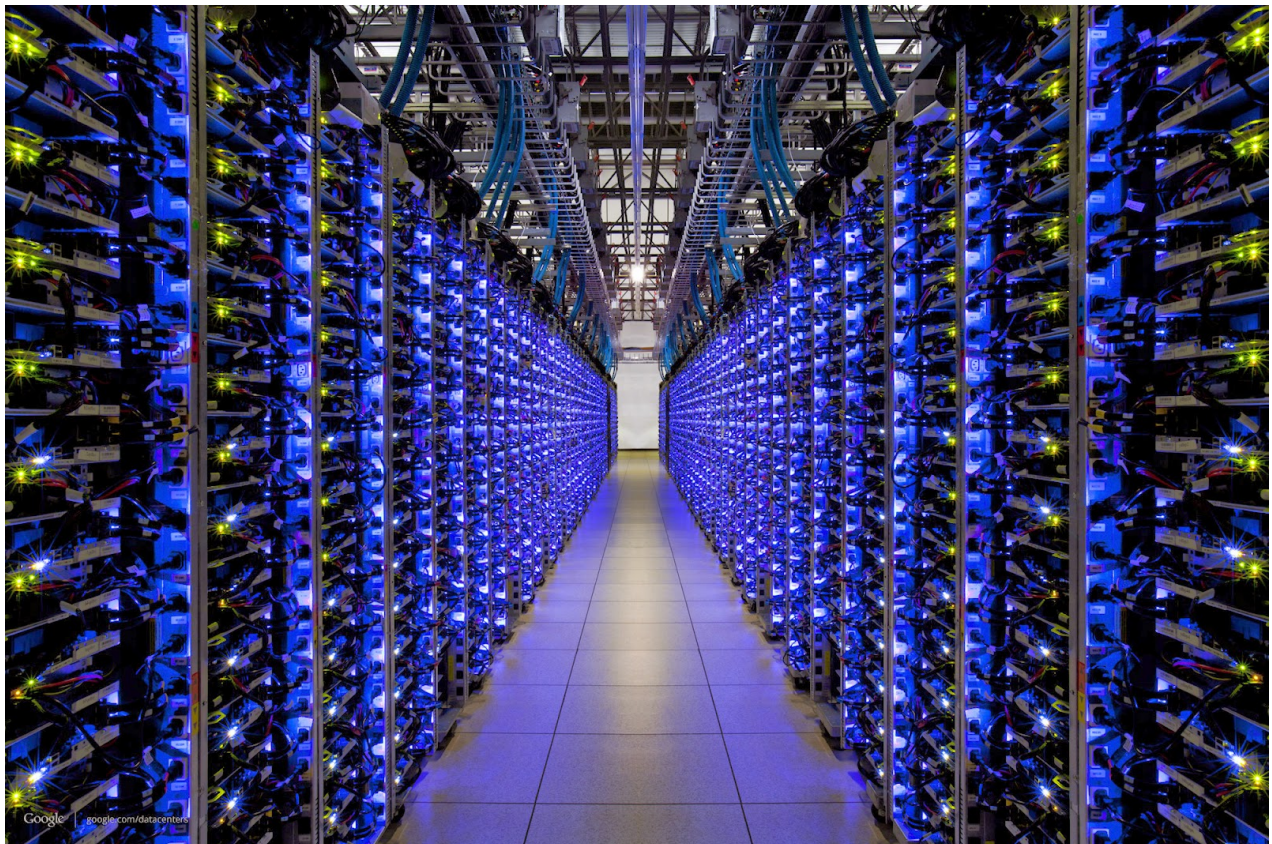


CDW-G Proposal - Pleasanton USD Data Center Upgrade and Disaster Recovery



Presented by:

**CDW Government LLC
230 N. Milwaukee Ave.
Vernon Hills, IL 60061**





One CDW Way
230 N. Milwaukee Avenue
Vernon Hills, IL 60061

Phone: 847.465.6000
Fax: 847.419.6200
Toll-free: 800.808.4239

CDWG.com

6/6/2019

Pleasanton Unified School District

4750 First Street

Pleasanton, CA 94566

CDW Government Proposal for PUSD Data Center Upgrade and Disaster Recovery

Dear Amy Nichols,

CDW Government LLC (CDW-G), the country's leading IT solutions provider, is pleased to present this response for your data center upgrade and disaster recovery project.

CDW-G is excited to bring Pleasanton Unified School District (PUSD) local support with a national reach. This means PUSD can expect the world class service they have always received from CDW-G's team of professionals including, an Account Manager, a Field Account Executive, and local pre-sales and post-sales engineers, all supported by a backbone of contract professionals, IT experts and logistics specialists.

CDW-G has the experience and resources to ensure PUSD's data center upgrade is seamless, while offering a very competitive price point. We understand the value of partnership and we look forward to working with PUSD to tailor your experience to your needs. As a valued customer of CDW-G for over 10 years, you are aware that CDW-G provides industry leading, total IT solutions that the public sector and K-12 needs to succeed in today's economy. PUSD can rest assured that CDW-G's more than thirty-five years of financial strength, strong manufacturer relationships, technical expertise and additional value-added services will continue to meet your data center and infrastructure needs.

If you have any questions concerning this proposal response, please contact Jeff Mitchell, via telephone at (916) 337-4717, or by email at jeffmit@cdw.com.

Thank you,

Jeff Mitchell

Field Account Executive – K-12 Bay Area | **CDW-G**

Mobile (916) 337-4717

jeffmit@cdw.com

CDW Government Overview

CDW is a leading multi-brand technology solutions provider to business, government, education, and healthcare customers in the United States, Canada, the United Kingdom, and other international locations. We have an expansive network of offices near major cities and a large team of field coworkers across the United States. In 2017, CDW achieved \$15.2 billion in revenue. CDW ranks at number 189 on the FORTUNE 500 list and third within the Information Technology Services category. CDW ranks at No. 5 on CRN's 2017 Solution Provider 500 list.

CDW QUICK FACTS

- Headquarters: Vernon Hills, IL
- 2017 Annual Net Sales: \$15.2B
- # of Coworkers: 8,800+
- # of U.S. Sales Offices: 27
- # of Customers: 250,000+
- Fortune 500 Rank: 189

CDW Government, LLC is the wholly-owned subsidiary of CDW LLC. Our customer base is quite diverse, ranging from state and local government, federal, healthcare, k-12 and higher education.

Total Solutions

CDW offers a full range of products and services that enable your organization to develop the best total solution to meet your specific needs while attaining the most value for your organization. CDW provides expert consulting, design, configuration, installation, and lifecycle management services. Our offerings are extremely comprehensive as follows:

CDW OFFERINGS	
PRODUCTS AND PARTNERSHIPS	100,000+ products from more than 1,100 vendors including Acer, Adobe, Cisco, Dell, EMC, HP, IBM, Lenovo, Microsoft, NetApp, and VMware
TECHNOLOGY SERVICES	<ul style="list-style-type: none">▪ e-Procurement integration▪ Leasing services▪ Managed services▪ Pre-shipment configuration▪ Professional services▪ Warranty and maintenance
TOTAL SOLUTIONS	<ul style="list-style-type: none">▪ Cloud▪ Collaboration▪ Data center and networking▪ Managed Print Services▪ Point of Sale▪ Security▪ Software management▪ Total Mobility Management

Customer-Focused Philosophy

CDW continues to maintain the strong customer focus that has been the key to our success. We adhere to a core philosophy known as the CDW Circle of Service, which means that everything we do revolves around you – the customer. It drives us to provide outstanding customer service and the best value. Our objective is to have PLEASANTON UNIFIED SCHOOL DISTRICT view us as a valuable extension of your IT staff. We seek to achieve this goal by providing superior customer service through our large and experienced sales and service delivery teams. Our Market Research Team works with a third-party research firm to measure customer loyalty and satisfaction through customer surveys.



CDW Circle of Service

Strengths, Best Practices, and Value

By aligning with CDW, your organization can take advantage of our strengths, best practices, and value-added services. Highlights include:

- Experienced account team supports your day-to-day IT needs and also helps develop appropriate strategies for future product and service needs.
- Value-added presales consulting resources ensure solutions are tailored to meet your operational and budgetary requirements.
- Strong partnerships with vendors enable us to provide technology roadmaps, quick responses to questions, and competitive pricing.
- On-line procurement capabilities streamline and standardize purchasing as well as support flexible reporting and improved decision making.
- Two large ISO 9001 certified distribution centers, efficient inventory management capabilities, and distribution channel partnerships result in quick product turnaround.
- Highly trained and experienced technicians provide pre-shipment configuration services and quality assurance checks to maximize productivity.
- Flexible logistical capabilities accommodate standard or urgent delivery.
- Our breadth and depth of capabilities enables us to deliver a streamlined and cost-effective total solution from planning to ongoing management.
- CDW's business model provides local and nationwide support.
- Our financial strength and leadership will enable us to continue supporting PLEASANTON UNIFIED SCHOOL DISTRICT with leading-edge technology solutions.

Large Onsite Inventories

CDW has two large strategically located distribution centers controlled by a state-of-the-art Warehouse Management System (WMS) that ensures speed and accuracy throughout the order fulfillment and distribution processes.

CDW has a 450,000-square-foot distribution center located at our headquarters in Vernon Hills, IL and a 513,000-square-foot distribution center located in North Las Vegas, NV. These locations facilitate quick distribution of products to our growing customer base throughout the country. The Vernon Hills (VH) distribution center focuses on distributing products to customers east of the Mississippi River while the Las Vegas (LV) distribution center primarily serves the western part of the United States.



450,000-square-foot distribution center in IL



513,000-square-foot distribution center in NV

We have access to more than 100,000 top brand-name products from more than 1,100 leading manufacturers. Due to the size of our facilities that span four levels of storage and three level picking modules, forklifts are required to stock and pick products as needed. Our product lineup includes desktops, notebooks, servers, peripherals, networking and communications equipment, software, accessories, plotters, network printers, desktop printers, and print supplies. CDW offers everything your IT operation could possibly need – from enterprise solutions to mouse pads.

Product Availability

CDW holds \$220M of inventory, on average, in our two CDW-owned distribution centers that total almost 1M square feet. CDW has a 450,000-square-foot distribution center located at our headquarters in Vernon Hills, IL and a 513,000-square-foot distribution center located in North Las Vegas, NV. Our ISO 9001:2008-certified strategically located distribution centers provide speed, accuracy, and excellent geographic coverage across the United States.

CDW's effective purchasing and inventory management policies are a key aspect of our business strategy that enables us to stock the latest technology for immediate shipment. CDW has both the buying power and physical capacity to take advantage of large volume purchase opportunities, which allows us to pass along savings to our customers.

CDW•G and Education

CDW•G is the wholly owned subsidiary of CDW LLC that focuses on the public sector, including federal, state, and local government agencies, educational institutions, and healthcare facilities. With over 200 government and education contracts, we are the nation's largest direct response provider of multi-brand technology products and services.

We focus on building strong relationships with our K–12 customers by leveraging our knowledgeable account managers and technical specialists to provide extensive pre- and post-award support. Our experts lead the industry in public-sector customer service and product knowledge, directly benefiting the officers, administrators, and staff of our public safety customers.

Based upon both exponential growth within the K–12 market and accolades from our OEM partners, such as “Google Chrome Global Partner of the Year”, CDW•G has continued our investments into resources to support our K–12 customers nationwide. Those resources include our K–12 Business Development team, which consists of former educators and classroom technology specialists whose primary focus is helping our customers implement solutions attuned to the needs of IT, leadership, and curriculum. These solutions are created with realistic budget constraints in mind, often in conjunction with E-Rate funding initiatives, led by Learning Environment Advisors (LEAs) advising on the top issues in the changing 21st century classroom environment.

A Powerful E-Rate Partner

CDW•G is proud to have participated in E-Rate Projects for Category 2 since its inception in 1997. During that time, we have been awarded over 10,000 E-Rate projects totaling over \$100 million in total equipment delivered to schools throughout the United States. Due to our streamlined and best-practice system of checks and balances, we have never lost funding for a school, as substantiated by countless audits. Our dedicated E-Rate invoice team ensures expert handling of both BEAR and SPI E-Rate invoicing.

E-Rate Program Management

David White, Program Manager, and Amy Passow, E-Rate Specialist, offer K–12 entities their knowledge, assistance, and advisement on E-Rate matters, including (but not limited to) Program compliance and adherence.

Mr. White prepares contract deliverable reports and makes modifications as necessary to incorporate price reductions, additions, discontinued products, replacements, and version changes. He ensures that price and supply agreements are in place from award through completion, and that E-Rate bidding, ordering, invoicing, and funding are all seamless and easy for entities to complete.

Ms. Passow ensures that CDW•G is working with E-Rate applicants in compliance with rules and regulations throughout the process. She advises on the appropriate engagement before and after Form 470 filings and works with our operations teams to ensure E-Rate ordering, invoicing, and delivery are compliant; additionally, Ms. Passow assists applicants with PIA reviews and preparation of Item 21 Forms as part of the Form 471 process.



WE ARE PART OF YOUR COMMUNITY

Support of CETPA's Educational Partners:

- SETDA: CDW·G is a platinum private sector partner of SETDA's. We participated in their Guide to Quality Instructional Materials project, with two of our coworkers serving as committee members. Additionally, we partnered with South by Southwest (SWSX), SEDTA and CUE to cohost a game-show style event that focused on how educators can navigate the digital shift.
- CUE: CDW·G is a Tier One conference sponsor and a Platinum Corporate Member. CDW·G has also partnered with CUE to offer professional learning and development. Together, we help educators get the professional development they need to best serve their students by finding unique and engaging ways to use technology in the classroom.
- CoSN: CDW·G is a Bronze Corporate Sponsor of CoSN.
- CCSESA: We hold the CalSAVE contract.

In addition to our in-state resources, we have a national traveling team, and sales leaders providing an in-person presence to our California customers. We have an office in Glendale, three services locations in Los Angeles, San Diego and San Francisco. A distribution center in Las Vegas, Nevada and numerous service locations nearby in Arizona, providing local support, when and where it's needed.



CDW·G's Local Bay Area Presence



CDW has 35 coworkers local to the Bay Area



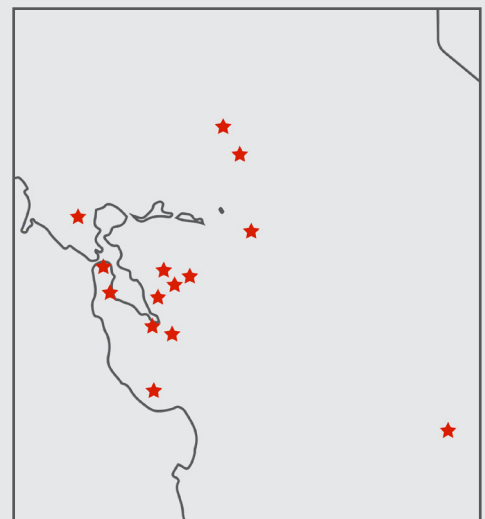
15 are dedicated exclusively to CDW·G



8 are part of our Solution Architect Team

Local Diverse Partnerships

We understand the needs and procurement rules/regulations of California public entities often require local, diverse vendor participation. Currently, we have more than five established partnerships in the Bay Area. We understand that there are many local government and education entities that have requirements to leverage vendors within their own county. That's why we've been building our certified partner pool to expand in number and expertise throughout the major California counties.




**We're here and we're ready to help.
For more information, contact your dedicated CDW·G account manager.**





PUSD Data Center Upgrade and Disaster Recovery Proposal

Cisco HyperFlex Quote - District Office

				\$ 170,093.12	
Customer:	Pleasanton Unified School Distirt	Account Manager: Justin Davenport	Quote Date:	March 1, 2019	
Contact:	Amy Nichols		Prep by:	Justin Davenport	
Address:	4750 1st Setreet		Phone:	(312)705-4054	
QUOTE #	District Office		Toll Free:	(866) 246-8136	
Phone #:	925-596-9660		Email:	justdav@cdwg.com	
Qty x 1: HXAF2X0C-M5S (8x5xNBD)					
QTY	PART #	DESCRIPTION	UNIT COST	EXT. COST	
1	HXAF2X0C-M5S	Cisco Hyperconverged System	\$0.00	0.00	
3	HXAF240C-M5SX	Cisco HyperFlex HX240c M5 All Flash Node	\$841.40	2,524.20	
3	CON-SNT-AF240CSX	SNTC 8X5XNBD Cisco HyperFlex HX240c M5 All Flash Node	\$4,809.90	14,429.70	
6	HX-CPU-6140	2.3 GHz 6140/140W 18C/24.75MB Cache/DDR4 2666MHz	\$1,321.10	7,926.60	
36	HX-MR-X32G2RS-H	32GB DDR4-2666-MHz RDIMM/PC4-21300/dual rank/x4/1.2v	\$355.00	12,780.00	
3	HX-PCI-1-C240M5	Riser 1 incl 3 PCIe slots (x8, x16, x8)	\$32.90	98.70	
3	HX-PCI-2B-240M5	Riser 2B incl 3PCleslots(x8,x16,x8)+2NVMe(1cnctr)supportsGPU	\$32.90	98.70	
39	HX-SD38T61X-EV	3.8TB 2.5 inch Enterprise Value 6G SATA SSD	\$1,632.80	63,679.20	
3	HX-NVMEHW-H1600	1.6TB 2.5in U.2 HGST SN200 NVMe High Perf. High Endurance	\$1,214.20	3,642.60	
3	HX-SD240G61X-EV	240GB 2.5 inch Enterprise Value 6G SATA SSD	\$121.20	363.60	
3	HX-M2-240GB	240GB SATA M.2	\$88.30	264.90	
3	HX-MSD-32G	32GB Micro SD Card for UCS M5 servers	\$36.30	108.90	
6	HX-PSU1-1600W	Cisco UCS 1600W AC Power Supply for Rack Server	\$153.40	920.40	
6	CAB-C13-CBN	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors	\$0.00	0.00	
3	HX-RAILB-M4	Ball Bearing Rail Kit for C220 M4 and C240 M4 rack servers	\$36.30	108.90	
6	SFP-H10GB-CU3M	10GBASE-CU SFP+ Cable 3 Meter	\$16.50	99.00	
3	CVR-QSFP-SFP10G	QSFP to SFP10G adapter	\$57.80	173.40	
6	UCSC-HS-C240M5	Heat sink for UCS C240 M5 rack servers 150W CPUs & below	\$0.00	0.00	
33	UCSC-BBLKD-S2	UCS C-Series M5 SFF drive blanking panel	\$0.00	0.00	
3	UCSC-RNVME-240M5	C240 M5 Rear NVMe CBL(1) kit, Rear NVMe CBL, backplane	\$0.00	0.00	
3	UCS-MSTOR-M2	Mini Storage carrier for M.2 SATA/NVME (holds up to 2)	\$0.00	0.00	
3	HXAF240C-BZL-M5SX	HXAF240C M5 Security Bezel	\$0.00	0.00	
3	HX-SAS-M5HD	Cisco 12G Modular SAS HBA for up to 26 drives	\$279.60	838.80	
3	HX-MLOM-C25Q-04	Cisco UCS VIC 1457 Quad Port 10/25G SFP28 CNA MLOM	\$371.20	1,113.60	
3	HX-VSP-6-5-FND-D	Factory Installed -vSphere SW 6.5 Enduser to provide License	\$0.00	0.00	
3	HX-VSP-6-5-FND-DL	Factory Installed - VMware vSphere 6.5 SW Download	\$0.00	0.00	
2	HX-FI-6454	UCS Fabric Interconnect 6454	\$8,587.00	17,174.00	
2	CON-SNT-HXFI6454	SNTC-8X5XNBD UCS Fabric Interconnect 6454	\$5,964.30	11,928.60	
2	N10-MGT016	UCS Manager v4.0	\$0.00	0.00	
4	UCS-PSU-6332-AC	UCS 6332 Power Supply/100-240VAC	\$231.20	924.80	
4	CAB-C13-CBN	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors	\$0.00	0.00	
2	UCS-ACC-6332	UCS 6332/ 6454 Chassis Accessory Kit	\$0.00	0.00	
8	UCS-FAN-6332	UCS 6332/ 6454 Fan Module	\$0.00	0.00	
3	HXDP-S001-5YR=	Cisco HyperFlex Data Platform Standard Edition 5 Yr Subscrip	\$0.00	0.00	
3	HXDP-S001-5YR	HyperFlex Data Platform Standard Edition 5 Yr Subscription	\$6,579.60	19,738.80	
4	SFP-10G-SR=	10GBASE-SR SFP Module	\$164.30	657.20	
4	SFP-H10GB-CU5M	10GBASE-CU Passive Cable 5M	\$0.00	0.00	

QUOTE CONFIRMATION



DEAR AMY NICHOLS,

Thank you for considering CDW•G for your computing needs. The details of your quote are below. [Click here](#) to convert your quote to an order.

QUOTE #	QUOTE DATE	QUOTE REFERENCE	CUSTOMER #	GRAND TOTAL
KKPM723	2/7/2019	VMWARE SITE 2	1792598	\$43,750.00

QUOTE DETAILS				
ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE
VMware vSphere Enterprise Plus Acceleration Kit (v. 6) - upgrade license - Mfg. Part#: VS6-ESP-EPL-AK-UG-A UNSPSC: 43233006 Electronic distribution - NO MEDIA Contract: Sourcewell Formerly NJPA 100614#CDW Software only (100614#CDW)	1	4038134	\$13,125.00	\$13,125.00
VMware Support and Subscription Production - technical support - for VMware Mfg. Part#: VS6-EPL-AK-P-SSS-A UNSPSC: 81112201 Electronic distribution - NO MEDIA Contract: Sourcewell Formerly NJPA 100614#CDW Software only (100614#CDW)	5	4038121	\$6,125.00	\$30,625.00

PURCHASER BILLING INFO	SUBTOTAL	\$43,750.00
Billing Address: PLEASANTON UNIFIED SCHOOL DISTRICT ACCTS PAYABLE 4750 1ST ST *****MUST SHIP COMPLETE***** PLEASANTON, CA 94566-7334 Phone: (925) 462-5500 Payment Terms: NET 30-VERBAL	SHIPPING	\$0.00
	SALES TAX	\$0.00
	GRAND TOTAL	\$43,750.00
	Please remit payments to: CDW Government 75 Remittance Drive Suite 1515 Chicago, IL 60675-1515	
DELIVER TO		
Shipping Address: PLEASANTON UNIFIED SCHOOL DISTRICT WAREHOUSE PUSD 4750 1ST ST PLEASANTON, CA 94566-7334 Shipping Method: ELECTRONIC DISTRIBUTION		

Need Assistance? CDW•G SALES CONTACT INFORMATION



Justin Davenport

(866) 246-8136

justdav@cdwg.com

This quote is subject to CDW's Terms and Conditions of Sales and Service Projects at <http://www.cdwg.com/content/terms-conditions/product-sales.aspx>
For more information, contact a CDW account manager

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[illegible]

QUOTE CONFIRMATION



DEAR AMY NICHOLS,

Thank you for considering CDW•G for your computing needs. The details of your quote are below. [Click here](#) to convert your quote to an order.

QUOTE #	QUOTE DATE	QUOTE REFERENCE	CUSTOMER #	GRAND TOTAL
KPNX966	5/2/2019	VEEAM 5 YEARS	1792598	\$12,259.32

QUOTE DETAILS				
ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE
Veeam Backup & Replication Enterprise for VMware License 1 CPU Socket Mfg. Part#: P-VBRENT-VS-P0000-00 UNSPSC: 43233415 Electronic distribution - NO MEDIA Contract: MARKET	6	3074247	\$950.36	\$5,702.16
VEEAM BCKP&REPLENT VMWARE Mfg. Part#: V-VBRENT-VS-P04YP-00 Electronic distribution - NO MEDIA Contract: MARKET	6	3865212	\$1,092.86	\$6,557.16

PURCHASER BILLING INFO	SUBTOTAL	\$12,259.32
Billing Address: PLEASANTON UNIFIED SCHOOL DISTRICT ACCTS PAYABLE 4750 1ST ST *****MUST SHIP COMPLETE***** PLEASANTON, CA 94566-7334 Phone: (925) 462-5500 Payment Terms: NET 30-VERBAL	SHIPPING	\$0.00
	SALES TAX	\$0.00
	GRAND TOTAL	\$12,259.32
	Please remit payments to: CDW Government 75 Remittance Drive Suite 1515 Chicago, IL 60675-1515	
DELIVER TO		
Shipping Address: PLEASANTON UNIFIED SCHOOL DISTRICT WAREHOUSE PUSD 4750 1ST ST PLEASANTON, CA 94566-7334 Shipping Method: ELECTRONIC DISTRIBUTION		

Need Assistance? CDW•G SALES CONTACT INFORMATION



Justin Davenport

(866) 246-8136

justdav@cdwg.com

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For more information, contact a CDW account manager

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STATEMENT OF WORK

Project Name:	Pleasanton USD - District Office HX	Seller Representative:
Customer Name:	PLEASANTON UNIFIED SCHOOL DISTRICT	Jeffrey Mitchell 9163374717 jeffmit@cdw.com
CDW Affiliate:	CDW Government, LLC.	
Date Requested:	June 4, 2019	Solution Architect:
Seller Services Manager:	Devinder Singh	Brian Joachim Prem Jain
Version:	1	

This statement of work (“**Statement of Work**” or “**SOW**”) is made and entered into on the date this SOW is signed by both parties (the “**SOW Effective Date**”) by and between the undersigned, CDW Government, LLC. (“**Provider**”, “**Seller**” and “**we**”) and PLEASANTON UNIFIED SCHOOL DISTRICT (“**Customer**” and “**you**”).

PROJECT DESCRIPTION

PROJECT SCOPE

This scope of engagement, together with the Agreement between the CDW entity selling the Services described herein (“**Seller**” or “**Provider**”), and the Customer ordering such Services (“**Customer**”), shall be deemed to be a contract upon Seller’s acceptance of Customer’s Purchase Order (“**PO**”).

SERVICES SUMMARY

Seller will perform the following:

CISCO HYPERFLEX CLUSTER DEPLOYMENT SERVICES (UP TO 4 NODES) - ONSITE

The Seller will conduct a Cisco HyperFlex cluster deployment with Customer at the specified location. This engagement will include a hands-on overview and installation/implementation of the HyperFlex solution. As part of this engagement, services will consist of the items listed below (“**Services**”):

- Pre-Engagement Call (Customer Kick-off Meeting)
 - Review scope and expectations
 - Identify stakeholders and key contacts
 - Identify project constraints and limitations
- HyperFlex Cluster Design and Planning Session
 - Remote session with Customer and Seller to discuss design and planning variables
 - Present HyperFlex architecture and components
 - Perform verification of site readiness for service delivery
 - Discuss and review hardware requirements and system prerequisites
 - Work with Customer to design the layout and configuration of the HyperFlex cluster

Page 1

Proprietary and Confidential

Version: 1

Contract Number: 48778

Drafted by:

CDW, LLC.

- Discussions around layer 2 data and management networking, cluster layout, design variables, and relevant items for the cluster build.
 - Discussions around VMware vSphere integration and design variables
 - Complete discovery, configuration, and HyperFlex cluster pre-installation checklist and review with Customer
 - Complete solution summary documentation and applicable Visio drawings
- HyperFlex Cluster Deployment and Configuration
 - Performs the pre-site installation checklist with Customer team
 - Confirms network and connected switch settings
 - Conducts a site readiness assessment for project
 - Completes the HyperFlex pre-installation site checklist
 - Racks, cables, and power testing of HyperFlex cluster hardware
 - Initial Imaging and OS installation for all nodes in cluster via Cisco HX Data Platform Installer
 - Deployment and initial configuration of UCS Fabric Interconnects
 - Install any prerequisite UCS firmware prior to HX imaging
 - Deployment and configuration of HX Data Platform Installer appliance
 - Validation of
 - IP, DNS, NTP, data network settings
 - Node/cluster intercommunication
 - Controller Virtual Machine (CVM) Validation
- VMware vSphere Integration and HyperFlex Cluster Configuration
 - Perform vSphere and vCenter integration configuration of HX cluster
 - Addition of HX ESXi nodes to a new cluster within existing vCenter
 - HA/DRS settings
 - ESXi licensing
 - Additional ESXi host networking
 - Update ESXi host passwords
 - Validation of HX plugin installation and usage
 - VM Datastore provisioning/HA heartbeat configuration
 - Enable HX Connect Auto Support
 - Setup replication pairs (if multiple HyperFlex sites are part of SoW)
- Cisco Intersight Integration
 - Registration and integration of HyperFlex cluster into Cisco Intersight portal
- Functional Demonstration and Knowledge Transfer around HyperFlex cluster
 - HX Installer Platform Overview and Administration
 - vCenter Web Client Overview and Administration via HX plugin
 - Functional Demonstration of HyperFlex administration
 - HyperFlex Upgrade (if available)
 - HyperFlex Scalability (addition of nodes)
 - Monitoring of HyperFlex cluster
 - Workload Migration
 - Migration or creation of up to five (5) non-production VMs to HyperFlex cluster, using available tools

CISCO HYPERFLEX VM REPLICATION CONFIGURATION AND TESTING

Seller will perform the following:

Page 2

Proprietary and Confidential

Version: 1

Contract Number: 48778

Drafted by:

CDW, LLC.

- Configure replication pairs to connect primary and secondary HyperFlexClusters
 - Configure replication VLAN and network settings
 - Configure mapped datastore connections
- Configure Protection Groups for VM replication (test replication)
 - Configure Protection Group and configure replication settings
 - Assign non-production VMs (up to 2) to Protection Group
 - Monitor replication via HyperFlexConnect console
- HyperFlex VM Recovery Testing (for test replication VMs)
 - Ensure VM is replicated to secondary HyperFlexcluster
 - Power off primary VM and ensure final replication has occurred
 - Recover VM on secondary cluster using HyperFlexConnect UI or ESXi console
 - Update VM networking as needed (if on different VLAN)

CUSTOMER RESPONSIBILITIES

1. Customer must have vCenter Server or Appliance already installed and configured in environment, unless otherwise stated in the “Services Summary” section. vCenter must be at minimum version supported by HyperFlex version or be upgraded to such by Customer prior to HyperFlex implementation.
2. Customer needs to have a 10GbE Top-of-Rack (ToR) switches to use with the UCS cluster and it must have the appropriate number of 10GbE open ports available/licenses to connect to the Fabric Interconnects.
3. Customer needs to have a management switch that will be used for OOB connectivity to the Fabric Interconnects. Although not recommended, the same switch for ToR connectivity can be used for management if the applicable ports are available.
4. Configuration of network switches for data and management will be completed by the Customer unless explicitly stated otherwise in the “Services Summary” section above.
5. Assist Seller with project planning and design variable gathering.
6. Customer is responsible for creating a backup of the VMs to be test migrated
7. Customer shall provide Provider with detailed and accurate information regarding its current network environment, including information regarding network provisioning, TCP/IP settings, server hardware details, software versions, or regulatory requirements. Inaccurate information may add time and cost to the project.
8. Customer shall perform a full working backup of its network prior to commencement of the Services. Seller is not responsible for lost data.
9. Provide qualified personnel who will perform Customer’s obligations under this SOE, make timely decisions necessary to move performance of the Services forward, participate in this project to the extent reasonably requested by Seller and reasonably assist Seller with its performance of the Services
10. Provide Seller’s personnel with appropriate levels of access and privilege to systems and information necessary for Seller’s performance of the Services
11. Limiting access to Customer’s network and/or facilities only as needed to perform the Services
12. Make any final decisions regarding, and take responsibility for the implementation of any recommendations or potential solutions provided by Seller under this SOE
13. Site Preparation:
 - All hardware will be received and inventoried prior to scheduling Seller to arrive on site. All hardware/software/firmware are compatible in accordance with manufactures support matrix(s)
 - Complete all change control task(s) and schedule all required maintenance windows.
 - Customer shall assume all responsibility for site preparation, including space, cabling, HVAC and electrical requirements that have already been provided.
 - Customer is responsible for providing customer-owned or licensed copies of any customer or third-party software that Seller is required to install on the Customer’s behalf.

ASSUMPTIONS AND ACKNOWLEDGEMENTS

1. Services will be delivered onsite
2. Customer's personnel will be available on a timely basis, and when reasonably requested by Seller, Customer's personnel will provide input, review the Services being performed and the items provided by Seller, answer questions, provide signoff, and allow Seller to gather and validate information, perform reviews and obtain other input
3. The scope and objectives of this project will be jointly managed by Customer and Seller to better ensure completion of the project within the anticipated schedule
4. Customer acknowledges and agrees that Seller will not process personal data that is subject to applicable data security and privacy laws ("**Personal Data**") within the scope of the Services, and that Customer will restrict Seller from accessing any Personal Data during the performance of the Services

ENGAGEMENT PLANNING AND MANAGEMENT

These tasks will ensure that project completion meets all requirements outlined in the scope of services. It includes the following activities:

- Internal Project Technical Planning
 - Solution and Technical Architecture Review and planning
 - Clearly define project scope, objectives, risks and approach
 - Develop a Work Breakdown Structure and Develop a Project Plan
 - Develop Communication and Escalation Plan
 - Identify project resources, roles, and responsibilities
 - Confirm site readiness and documentation
- External Project Meeting
 - Introduce key participants, stakeholders and project teams
 - Verify hardware delivery and specifications
 - Solution, requirements and logistics Review
 - Review and approve project plan
- Project Management
 - Task and resource scheduling and assignment
 - Administration, Financial and Team management
 - Escalation and communication management
 - Change control and management
 - Status meetings and reporting
 - Project Closeout

OUT OF SCOPE

1. Data migration services outside of pilot migration (to be quoted separately)
2. Addition of UCS chassis and compute nodes (to be quoted separately)
3. Services do not apply to the addition of existing UCS infrastructure to HyperFlex cluster (new hardware only)
4. vRealize Operations and UCS Performance Manager (to be quoted separately)
5. Migration or movement of vCenter to be within the HyperFlex cluster (to be quoted separately)
6. Firmware upgrades for non-UCS hardware
7. Configuration of LAN/SAN switches

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Drafted by:

CDW, LLC.

8. Remediation of any issues or problems is out of scope for this engagement
9. Seller will not perform Services for Customer's foreign affiliates if any
10. Any other Services not specified herein
11. Replacement of any security certificates.
12. Any P2V conversions
13. Tasks not defined within this SoW

Services not specified in this SOW are considered out of scope and will be addressed with a separate SOW or Change Order.

ITEM(S) PROVIDED TO CUSTOMER

The following will be provided to Customer by the completion of this project.

Table 1 – Item(s) Provided to Customer

Item	Description	Format
HX Pre-Installation Checklist	Pre-installation checklist for the project	PDF
HX Administration Documentation	Vendor Procedural documentation	PDF

PROJECT SCHEDULING

Customer and Seller, who will jointly manage this project, will together develop timelines for an anticipated schedule (“**Anticipated Schedule**”) based on Seller’s project management methodology. Any dates, deadlines, timelines or schedules contained in the Anticipated Schedule, in this SOW or otherwise, are estimates only, and the Parties will not rely on them for purposes other than initial planning.

TOTAL FEES

The total fees due and payable under this SOW (“**Total Fees**”) include both fees for Seller’s performance of work (“**Service Fees**”) and any other related costs and fees specified in the Expenses section (“**Expenses**”). Unless otherwise specified, taxes will be invoiced but are not included in any numbers or calculations provided herein.

Seller will invoice for the Total Fees.

SERVICES FEES

Services Fees hereunder are **FIXED FEES**, meaning that the amount invoiced for the Services will be \$10,900.00.

The invoiced amount of Services Fees will equal the amount of fees applicable to each completed project milestone, as specified in Table 2.

Table 2 – Services Fees

Project Milestones	Percentage	Fees
Completion of Work	100%	\$10,900.00
Totals	100%	\$10,900.00

EXPENSES

Neither travel time nor direct expenses will be billed for this project.

Two (2) weeks' advance notice from Customer is required for any necessary travel by Seller personnel.

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the locations specified on the attached Exhibit ("**Customer-Designated Locations**").

PROJECT-SPECIFIC TERMS

1. Customer is responsible for providing all physical and communications access, privileges, environmental conditions, properly functioning hardware and software, qualified personnel, project details, material information, decisions/directions, and personnel and stakeholder interviews that are reasonably necessary to assist and accommodate Seller's performance of the Services ("Customer Components").
2. Seller is not responsible for delays in performance directly caused by the unavailability of the Customer Components and will have the right, with prior written notice and after a reasonable opportunity for Customer to correct the failure, to reassign Seller personnel to work unrelated to this SOW and the services hereunder or to invoice Customer for time Seller personnel are thereby idled if reassignment is not feasible.
3. Both parties will treat all employee personally identifiable information as confidential per the Agreement.
4. Customer will provide in advance and in writing, and Seller will follow, all applicable Customer safety and security rules and procedures.
5. Customer is responsible for security at all Customer-Designated Locations; Seller is not responsible for lost or stolen equipment.
6. This SOW can be terminated by either party without cause upon at least fourteen (14) days' advance written notice.

SOW TERMS AND CONDITIONS

CONTACT PERSON(S)

Each Party will appoint a person to act as that Party's point of contact ("**Contact Person**") as the time for performance nears and will communicate that person's name and information to the other Party's Contact Person.

The Customer Contact Person is authorized to approve materials and Services provided by Seller, and Seller may rely on the decisions and approvals made by the Customer Contact Person (except that Seller understands that Customer may require a different person to sign any Change Orders amending this SOW). The Customer Contact Person will manage all communications with Seller, and when Services are performed at a Customer-Designated Location, the Customer Contact Person will be present or available. The Parties' Contact Persons shall be authorized to approve changes in personnel and associated rates for Services under this SOW.

PAYMENT TERMS

Customer will pay invoices containing amounts authorized by this SOW within thirty (30) days of Customer's receipt of the invoice. Any objections to an invoice must be communicated to the Seller Contact Person within fifteen (15) days after receipt of the invoice.

EXPIRATION AND TERMINATION

This SOW expires and will be of no force or effect unless it is signed by Customer and Seller within thirty (30) days from the SOW Created Date, except as otherwise agreed by Seller.

CHANGE ORDERS

This SOW may be modified or amended only in a writing signed by both Customer and Seller, generally in the form provided by Seller ("**Change Order**").

In the event of a conflict between the terms and conditions set forth in a fully executed Change Order and those set forth in this SOW or a prior fully executed Change Order, the terms and conditions of the most recent fully executed Change Order shall prevail.

MISCELLANEOUS

This SOW shall be governed by Seller's "Terms and Conditions of Sales and Service Projects", accessed via the "Terms & Conditions" link at www.cdwg.com (the "**Agreement**"). If there is a conflict between this SOW and the Agreement, then the Agreement will control, except as expressly amended in this SOW by specific reference to the Agreement. References in the Agreement to a SOW or a Work Order apply to this SOW. This SOW and any Change Order may be signed in separate counterparts, each of which shall be deemed an original and all of which together will be deemed to be one original. Electronic signatures on this SOW or on any Change Order (or copies of signatures sent via electronic means) are the equivalent of handwritten signatures. This SOW is the proprietary and confidential information of Seller.

SIGNATURES

In acknowledgement that the parties below have read and understood this Statement of Work and agree to be bound by it, each party has caused this Statement of Work to be signed and transferred by its respective authorized representative.

CDW Government, LLC.

PLEASANTON UNIFIED SCHOOL DISTRICT

By: Terrell J. Isselhard, Jr. Digitally signed
Signature _____ by Terrell J.
Name: _____ Isselhard, Jr.
Date: _____ 2019.06.06
Date: _____ 10:31:19 -05'00'

Mailing Address:

230 N. Milwaukee Avenue, Vernon Hills, IL. 60061

☐ The following PSM has given approval:
Devinder Singh

By: _____
Signature _____

Name: _____

Date: _____

Mailing Address:

Street: _____

City/ST/ZIP: _____

Billing Contact:

Street: _____

City/ST/ZIP: _____

☐ A purchase order for payment hereunder is attached.
☐ A purchase order is not required for payment hereunder.

EXHIBIT A.

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the following locations (“**Customer-Designated Locations**”).

Table 1 – Customer-Designated Locations

Location(s)	Service(s)		
4750 First St Pleasanton, CA 94566	<input type="checkbox"/> Assessment	<input type="checkbox"/> Implementation	<input type="checkbox"/> Support
	<input checked="" type="checkbox"/> Configuration	<input checked="" type="checkbox"/> Project Management	<input type="checkbox"/> Training
	<input checked="" type="checkbox"/> Design	<input type="checkbox"/> Staff Augmentation	<input type="checkbox"/> Custom Work



STATEMENT OF WORK

Project Name:	Pleasanton USD - Data Migration	Seller Representative:
Customer Name:	PLEASANTON UNIFIED SCHOOL DISTRICT	Jeffrey Mitchell 9163374717
CDW Affiliate:	CDW Government, LLC.	jeffmit@cdw.com
Date Requested:	June 4, 2019	Solution Architect:
Seller Services Manager:	Devinder Singh	Brian Joachim Prem Jain
Version:	1	

This statement of work ("Statement of Work" or "SOW") is made and entered into on the date this SOW is signed by both parties (the "SOW Effective Date") by and between the undersigned, CDW Government, LLC. ("Provider", "Seller" and "we") and PLEASANTON UNIFIED SCHOOL DISTRICT ("Customer" and "you").

PROJECT DESCRIPTION

PROJECT SCOPE

Customer is requesting assistance to migrate approximately 30 TB of Data from an existing Dell Storwize storage solution ("Source") to a new Cisco Hyperflex storage solution ("Target"). Seller will work with Customer to Plan, Design and Migrate Data on specific hosts from started sources(s) to specific target(s) according to the scope boundaries set forth below: including Data Gathering, Assessment, Planning, Design, Implementation and Migration data validation. Seller will use appropriate migration tool or specific Storage Solution Native Windows tools as its primary tool(s) for migration of data during this project and may elect, at Seller's discretion, to employ the use of other appropriate methods as needed to complete the migration of data as defined in this SOW. This process will be based upon mutually agreed upon downtime requirements, planned in advance by both the Seller and Customer.

SOURCE ENVIRONMENT

- Qty. (2) Dell Equologic storage array PS400
- Qty (6) vSphere 5.5 Hosts
 - Approx 30TBs, 100 VMs,

TARGET ENVIRONMENT

- Qty. (3 node) Cisco HyperFlex system

DATA MIGRATION

Seller's approach to this Data Migration project is addressed in the following phases:

- Discovery & Assessment
- Planning & Design
- Preparation

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- Pilot
- Data Migration
- Validation

DISCOVERY AND ASSESSMENT PHASE

- Seller will perform a physical and logical inventory of the Customer storage environment and supporting network hardware, and will gather information regarding the datatype, size, and environment.
- Customer will complete a data assessment questionnaire provided by the Seller.
- Seller will review the questionnaire and communicate with the Customer as needed for additional or follow up information.
- Seller will run a data gathering and validation tool on Customer network (remote) in order to collect, analyze and validate Customer data is in line with project information.
- Seller will work with the Customer if any needed outages are identified to ensure minimal impact to the Customer business operations as well as to ensure correct collection of data.
- Seller will complete the analysis of existing host data collected and document any required changes to hardware/software/firmware and provide the list to the Customer.

PLANNING AND DESIGN PHASE

- Upon completion of the discovery and assessment phase, Seller will create a data migration strategy based on Customer specific needs. The Seller and Customer will review the findings and recommendations.
- A migration plan will be submitted to Customer for approval before proceeding.
- Once the migration plan has been accepted then the Seller will create a pilot and validation plan. The purpose of this plan is to test in a controlled pilot group the migration strategy.
- Validate the migration environment to ensure the appropriate assets will be migrated and meet Seller's interoperability requirements.
- Correlate storage environment information and plan for the migration solution.
- Create documentation of the proposed architecture in the Configuration Guide.
- Work with Customer to develop post migration cutover plan.
- Determine the engagement process and schedule.
- Determine Downtime windows.
- Determine Customer Change Control.

PREPARATION PHASE

- Validate that the relevant equipment is on-site at the appropriate location with power and cable requirements met
- Confirm with the Customer the installation, cabling, and connectivity to system cabinets are in accordance with the solution design
- Verification of the network, server, or storage configuration changes
- Installation and setup of the migration tool(s)
- Confirm Customer has completed a full backup of all data from source systems

PILOT PHASE

- Development of the Data Migration Validation Plan with the Customer
- Perform a test migration with data subset
- Review Pilot results upon successfully completion
- Modify migration plan and conduct second pilot if required

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DATA MIGRATION PHASE

- Migration of the data in scope of this SOW
- Upon determination of migration plan and technique, specific implementation plans will be generated and executed.

VALIDATION PHASE

- Review Data Validation plan with Customer
- Validate migrated data attributes
- Validate target system configuration
- Verify I/O is suspended and confirm with Customer that data removal from system is complete
- Perform post-migration clean up, including removal of any zoning, device mappings, port connections, and migration software or storage configuration settings that are no longer required in the environment
- Remove migration appliances as needed
- Provide appropriate Knowledge Transfer and target system Overview as applicable

ENGAGEMENT PLANNING & MANAGEMENT

These tasks will ensure that project completion meets all requirements outlined in the scope of services. It includes the following activities:

- Internal Project Technical Planning
 - Solution and Technical Architecture Review and planning
 - Clearly define project scope, objectives, risks and approach
 - Develop a Work Breakdown Structure and Develop a Project Plan
 - Develop Communication and Escalation Plan
 - Identify project resources, roles, and responsibilities
 - Confirm site readiness and documentation
- External Project Meeting
 - Introduce key participants, stakeholders and project teams
 - Verify hardware delivery and specifications
 - Solution, requirements and logistics Review
 - Review and approve project plan
- Project Management
 - Task and resource scheduling and assignment
 - Administration, Financial and Team management
 - Escalation and communication management
 - Change control and management
 - Status meetings and reporting
 - Project Closeout

PROJECT ASSUMPTIONS

In addition to any other assumptions described in this SOW, Seller assumes the following:

1. The scope and objectives of this project will be jointly managed by you and Seller to better ensure completion of the project within the anticipated schedule.
2. If you require Seller to perform additional tasks that fall outside of this SOW additional charges may be incurred and will require Customer sign-off before additional tasks can be completed.

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Drafted by:

CDW, LLC.

3. Services not specified in this SOW are considered out-of-scope and will be addressed with a separate SOW or Change Order.
4. Customer must provide valid licenses for all operating systems.
5. Customer will provide either a Project Manager or other consistent and knowledgeable resource familiar with the Customer environment, processes and procedures in order to facilitate the timely execution of the tasks Seller is expected to complete as part of this SOW.
6. The scope and objectives of this project will be jointly managed by you and Seller to better ensure completion of the project within the anticipated schedule.
7. You and Seller will follow Seller's Project Management Methodology for this project. Seller's Project Management Methodology is as follows: Customer will work with Seller to define roles and responsibilities, develop project and test plans, identify risks, maintain change management procedures and ensure management of open issues.
8. If you require Seller to perform additional tasks that fall outside of this SOW additional charges may be incurred and will require Customer sign-off before additional tasks can be completed.
9. Existing network is in good working order.
10. All discovery Services are best effort and are dependent on the network being fully functional.
11. Customer has knowledge about current environment, storage area network, networking infrastructure.
12. Customer resources committed to the engagement will be made available throughout the engagement.
13. Customer has acquired all necessary hardware and software required to fulfill this project. Delays in hardware and software delivery may increase costs or change the project timeline.
14. Project management tasks will be performed remotely.
15. Seller will not be liable for any loss, corruption, or any other damage to data or software involved in this project.
16. The number of servers that are to be migrated during any single instance is limited to no more than 6, per session.
17. Customer and Seller agree that the total number of servers involved in the migration is 6.
18. Any change in the number of servers to be migrated will require a Project Change Request to the original SOW approved by both Seller and Customer and may require Seller to modify the number of servers migrated, per session accordingly.
19. Additional licensing cost may be applied depending on the agreed upon migration strategy. Customer will be responsible for any additional costs.

CUSTOMER RESPONSIBILITIES

In addition to any other responsibilities described in this SOW that you may have, your obligations include (without limitation) those listed below.

1. Together with Seller, schedule the performance of the services.
2. Provide other full-time qualified, knowledgeable personnel who will perform your obligations under this SOW, make timely decisions necessary to move performance of the services forward, participate in this project to the extent reasonably requested by Seller and reasonably assist Seller with its performance of the services.
3. Your personnel will be available on a timely basis, and when reasonably requested by Seller, your personnel will provide input, review the services being performed and the items provided by Seller, answer questions, provide signoff, and allow Seller to gather and validate information, perform reviews and obtain other input.

4. When services are performed at your location, you will provide adequate, co-located workspace for the engagement personnel (both Sellers' personnel and your personnel) with appropriate system access. Seller recommends keeping these personnel separate from support teams and those performing daily operations.
5. Acquired all necessary hardware and software required to complete this project.
6. Provide Seller all appropriate media, licensing, and software keys.
7. Provide network connectivity, including cabling, Internet access and voice access for local and long distance calls.
8. Must perform a full back-up prior to Seller arriving to perform the service requested. Seller is neither liable nor responsible for the loss, back-up, or restore of any Customer data.
9. Grant or facilitate authorized Seller project delivery personnel the timely access to all related Customer equipment, systems, device and system consoles, (restricted access or otherwise secured location) that Seller would require in order to execute the Services set forth in this SOW.
10. Current LAN, WAN, Network Storage or related Systems documentation, including any relevant drawings, diagrams, layouts and schematics to the Customer Environment either included or affected by the tasks set forth in this SOW, and as requested by Seller.
11. Inventory of Storage devices, physical and virtual to include SAN, NAS and Disk Arrays or as otherwise required by Seller.
12. All post-migration activities (i.e. reconfiguring replication and backups).

ACCEPTANCE CRITERIA

The acceptance criteria for this engagement are as follows:

1. Assessment
2. Planning/Design
3. Completion of data migration.

OUT OF SCOPE

Tasks outside the statement of work include, but are not limited to:

1. Migration of any server not within the defined SOW
2. Any LUN consolidation.
3. Application verification – Customer is required to verify data/application integrity.
4. Client configuration changes

Services not specified in this SOW are considered out of scope and will be addressed with a separate SOW or Change Order.

ITEM(S) PROVIDED TO CUSTOMER

The following will be provided to Customer by the completion of this project.

Table 1 – Item(s) Provided to Customer

Item	Description	Format
Communication Plan	Communication plan for this project	PDF

Item	Description	Format
Data Migration Workbook	The plan that will document the necessary steps and procedures that will be performed by both parties (Seller and Customer) to ensure the successful migration of the Customer's data. Visual depiction of the current data and storage environment.	PDF

PROJECT SCHEDULING

Customer and Seller, who will jointly manage this project, will together develop timelines for an anticipated schedule (“**Anticipated Schedule**”) based on Seller’s project management methodology. Any dates, deadlines, timelines or schedules contained in the Anticipated Schedule, in this SOW or otherwise, are estimates only, and the Parties will not rely on them for purposes other than initial planning.

TOTAL FEES

The total fees due and payable under this SOW (“**Total Fees**”) include both fees for Seller’s performance of work (“**Service Fees**”) and any other related costs and fees specified in the Expenses section (“**Expenses**”). Unless otherwise specified, taxes will be invoiced but are not included in any numbers or calculations provided herein.

Seller will invoice for the Total Fees.

SERVICES FEES

Services Fees hereunder are **FIXED FEES**, meaning that the amount invoiced for the Services will be \$13,130.00.

The invoiced amount of Services Fees will equal the amount of fees applicable to each completed project milestone, as specified in Table 2.

Table 2 – Services Fees

Project Milestones	Percentage	Fees
Completion of Work	100%	\$13,130.00
Totals	100%	\$13,130.00

EXPENSES

All services under this SOW will be performed remotely; therefore, neither travel time nor direct expenses will be billed for this project.

The parties agree that there will be no travel required for this project.

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the locations specified on the attached Exhibit (“**Customer-Designated Locations**”).

PROJECT-SPECIFIC TERMS

1. Customer is responsible for providing all physical and communications access, privileges, environmental conditions, properly functioning hardware and software, qualified personnel, project details, material information, decisions/directions, and personnel and stakeholder interviews that are reasonably necessary to assist and accommodate Seller’s performance of the Services (“Customer Components”).
2. Seller is not responsible for delays in performance directly caused by the unavailability of the Customer Components and will have the right, with prior written notice and after a reasonable opportunity for Customer to correct the failure, to reassign Seller personnel to work unrelated to this SOW and the services hereunder or to invoice Customer for time Seller personnel are thereby idled if reassignment is not feasible.
3. Both parties will treat all employee personally identifiable information as confidential per the Agreement.
4. Customer will provide in advance and in writing, and Seller will follow, all applicable Customer safety and security rules and procedures.
5. Customer is responsible for security at all Customer-Designated Locations; Seller is not responsible for lost or stolen equipment.
6. This SOW can be terminated by either party without cause upon at least fourteen (14) days’ advance written notice.

SOW TERMS AND CONDITIONS

CONTACT PERSON(S)

Each Party will appoint a person to act as that Party's point of contact ("**Contact Person**") as the time for performance nears and will communicate that person's name and information to the other Party's Contact Person.

The Customer Contact Person is authorized to approve materials and Services provided by Seller, and Seller may rely on the decisions and approvals made by the Customer Contact Person. The Customer Contact Person will manage all communications with Seller, and when Services are performed at a Customer-Designated Location, the Customer Contact Person will be present or available. The Parties' Contact Persons shall be authorized to approve changes in personnel and associated rates for Services under this SOW.

PAYMENT TERMS

Customer will pay invoices containing amounts authorized by this SOW within thirty (30) days of Customer's receipt of the invoice. Any objections to an invoice must be communicated to the Seller Contact Person within fifteen (15) days after receipt of the invoice.

EXPIRATION AND TERMINATION

This SOW expires and will be of no force or effect unless it is signed by Customer and Seller within thirty (30) days from the SOW Created Date, except as otherwise agreed by Seller.

CHANGE ORDERS

This SOW may be modified or amended only in a writing signed by both Customer and Seller, generally in the form provided by Seller ("**Change Order**").

In the event of a conflict between the terms and conditions set forth in a fully executed Change Order and those set forth in this SOW or a prior fully executed Change Order, the terms and conditions of the most recent fully executed Change Order shall prevail.

MISCELLANEOUS

This SOW shall be governed by the executed agreement between the parties covering Customer's purchase of Services from Seller, unless no such agreement has been entered into, in which case the Services will be governed by Seller's "Terms and Conditions of Sales and Service Projects", accessed via the "Terms & Conditions" link at www.cdwg.com (as applicable, the "**Agreement**"). If there is a conflict between this SOW and the Agreement, then the Agreement will control, except as expressly amended in this SOW. This SOW and any Change Order may be signed in separate counterparts, each of which shall be deemed an original and all of which together will be deemed to be one original. Electronic signatures on this SOW or on any Change Order (or copies of signatures sent via electronic means) are the equivalent of handwritten signatures. This SOW is the proprietary and confidential information of Seller.

SIGNATURES

In acknowledgement that the parties below have read and understood this Statement of Work and agree to be bound by it, each party has caused this Statement of Work to be signed and transferred by its respective authorized representative.

CDW Government, LLC.

By: Terrell J. Digitally signed
Name: by Terrell J.
Title: Isselhard, Jr.
Date: 2019.06.06 10:29:32 -05'00'
Jr.

PLEASANTON UNIFIED SCHOOL DISTRICT

By: _____
Name: _____
Title: _____
Date: _____
☐ A purchase order for payment hereunder is attached.
☐ A purchase order is not required for payment hereunder.

Seller Services Manager: Devinder Singh

EXHIBIT A.

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the following locations (“**Customer-Designated Locations**”).

Table 1 – Customer-Designated Locations

Location(s)	Service(s)		
4750 First St Pleasanton, CA 94566	<input type="checkbox"/> Assessment <input type="checkbox"/> Configuration <input type="checkbox"/> Design	<input type="checkbox"/> Implementation <input checked="" type="checkbox"/> Project Management <input type="checkbox"/> Staff Augmentation	<input type="checkbox"/> Support <input type="checkbox"/> Training <input checked="" type="checkbox"/> Custom Work



STATEMENT OF WORK

Project Name:	Pleasanton USD - Veeam/UCS240 Install	Seller Representative:
Customer Name:	PLEASANTON UNIFIED SCHOOL DISTRICT	Jeffrey Mitchell 9163374717
CDW Affiliate:	CDW Government, LLC.	jeffmit@cdw.com
Date Requested:	June 4, 2019	Solution Architect:
Seller Services Manager:	Devinder Singh	Brian Joachim Prem Jain
Version:	1	

This statement of work ("Statement of Work" or "SOW") is made and entered into on the date this SOW is signed by both parties (the "SOW Effective Date") by and between the undersigned, CDW Government, LLC. ("Provider", "Seller" and "we") and PLEASANTON UNIFIED SCHOOL DISTRICT ("Customer" and "you").

PROJECT DESCRIPTION

PROJECT SCOPE

REMOTE VEEAM AVAILABILITY JUMPSTART

Seller will conduct a Veeam Availability Jumpstart engagement with Customer remotely. This engagement will include lecture-based overview and installation services and will take up to three (3) business days

VEEAM AVAILABILITY DESIGN SESSION AND TECHNICAL OVERVIEW

As part of this engagement, Seller will conduct a planning and design session to go over the Veeam solution and create a solution design. Some of this information may have been collected as part of the pre-sales design process and will be verified during this phase. Information covered during this design session will include:

- Veeam Availability Suite Overview
- Veeam Availability Design Variables
 - Network and storage requirements for appliances
 - Storage requirements for backup repositories
 - IP Addresses
 - DNS/SMTP Information
 - SQL database requirements
- Customer environment backup assessment (Veeam ONE or virtualization assessment tool)
 - Virtual machines to be backed up
 - Applications to be backed up as part of VM jobs (SQL, Exchange, or Active Directory only)
- Backup policy and job variables for project (jobs, policies, proxies, etc.)

VEEAM BACKUP AND REPLICATION INSTALLATION AND CONFIGURATION

As part of this engagement, Seller will:

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CDW, LLC.

- Install and configure Veeam Backup and Replication for protection of up to one (1) VMware or Hyper-V datacenter
- Install and configure Backup Enterprise Manager
- Configure backup jobs of virtual machines based on customer requirements
- Perform test restore of two (2) non-production VMs
- Configure repository replication to up to one (1) additional location
- Storage Snapshot integration
- Physical Server backup configuration of up to two (2) physical servers
- Backup job verification using SureBackup

VEEAM ONE INSTALLATION AND CONFIGURATION

As part of this engagement, Seller will:

- Install and configure Veeam ONE
- Integrate Veeam ONE with Veeam Backup and Replication infrastructure to report on environment
- If vRealize Operations Manager and/or vRealize Log Insight are already deployed in Customer environment, Seller will install and configure applicable management and content packs for the vRealize suite applications.

VEEAM AVAILABILITY SUITE KNOWLEDGE TRANSFER

As part of this engagement, Seller will:

- Conduct a knowledge transfer session (up to 4 hours) remotely with customer staff, covering overview of Veeam Availability Suite, Veeam features and concepts, and administration processes.

ADDITIONAL SERVER (B-SERIES OR C-SERIES) INSTALL

Implementation Seller engineers will assist in the physical implementation of:

- Up to (1) One Cisco UCS C240 Server each one including:
 - System components, such as CPU, memory, HDD, mezzanine cards;
 - Accompanying power supply units and fan trays.
- During the OS deployment phase, the customer will collaborate with Seller engineers to perform installation of up to 4 UCS supported operating system/hypervisor (Linux, Window and/or VMware Hypervisor) on UCS Blades through the UCS Systems Management console.

TARGET AUDIENCE

- System engineers and administrators new to Veeam
- Backup Administrators responsible for virtual environment protection

AGENDA

- Pre-Engagement conference call
 - Introduce key participants
 - Review agenda
 - Review logistics
- Site readiness preparation
 - Remote hardware, storage, database, DNS and networking requirements discussion and planning
 - Document naming standards, IP addresses, VLAN, service accounts and storage configurations
- Design session and technical overview

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- Veeam Availability deployment
 - Veeam Backup and Replication
 - Veeam ONE
- Veeam Availability knowledge transfer session (up to 4 hours)

RESPONSIBILITIES

As part of this engagement, Customer is responsible for providing the following:

1. Veeam Availability licensing. Actual feature use will be dependent up on the version purchased.
2. Virtual infrastructure for Veeam Availability to be deployed on.

As part of this engagement, Seller is responsible for the following:

1. Manage any support issues which may arise throughout the duration of the jumpstart

PROJECT ASSUMPTIONS

1. Seller is not responsible for modifications beyond the initial configuration engagement.
2. Customer has either a local NTP server or will allow access to an external NTP time source
3. Project management and site readiness tasks will be performed remotely.
4. This is a remote engagement.

OUT OF SCOPE

Tasks outside the statement of work include, but are not limited to:

1. Configuration of virtual infrastructure and/or hypervisor resources
2. Configuration of VMware vRealize Operations Manager or vRealize Log Insight
3. Configuration of cloud infrastructure

Services not specified in this SOW are considered out of scope and will be addressed with a separate SOW or Change Order.

ITEM(S) PROVIDED TO CUSTOMER

The following will be provided to Customer by the completion of this project.

Table 1 – Item(s) Provided to Customer

Item	Description	Format
Veeam Design Sheet	Project design and planning documentation	Word

PROJECT SCHEDULING

Customer and Seller, who will jointly manage this project, will together develop timelines for an anticipated schedule (“**Anticipated Schedule**”) based on Seller’s project management methodology. Any dates, deadlines, timelines or schedules contained in the Anticipated Schedule, in this SOW or otherwise, are estimates only, and the Parties will not rely on them for purposes other than initial planning.

TOTAL FEES

The total fees due and payable under this SOW (“**Total Fees**”) include both fees for Seller’s performance of work (“**Service Fees**”) and any other related costs and fees specified in the Expenses section (“**Expenses**”). Unless otherwise specified, taxes will be invoiced but are not included in any numbers or calculations provided herein.

Seller will invoice for the Total Fees.

SERVICES FEES

Services Fees hereunder are **FIXED FEES**, meaning that the amount invoiced for the Services will be \$8,850.00.

The invoiced amount of Services Fees will equal the amount of fees applicable to each completed project milestone, as specified in Table 2.

Table 2 – Services Fees

Project Milestones	Percentage	Fees
Completion of Work	100%	\$8,850.00
Totals	100%	\$8,850.00

EXPENSES

Neither travel time nor direct expenses will be billed for this project.

Two (2) weeks’ advance notice from Customer is required for any necessary travel by Seller personnel.

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the locations specified on the attached Exhibit (“**Customer-Designated Locations**”).

PROJECT-SPECIFIC TERMS

1. Customer is responsible for providing all physical and communications access, privileges, environmental conditions, properly functioning hardware and software, qualified personnel, project details, material information, decisions/directions, and personnel and stakeholder interviews that are reasonably necessary to assist and accommodate Seller’s performance of the Services (“**Customer Components**”).
2. Seller is not responsible for delays in performance directly caused by the unavailability of the Customer Components and will have the right, with prior written notice and after a reasonable opportunity for Customer to correct the failure, to reassign Seller personnel to work unrelated to this SOW and the services hereunder or to invoice Customer for time Seller personnel are thereby idled if reassignment is not feasible.
3. Both parties will treat all employee personally identifiable information as confidential per the Agreement.
4. Customer will provide in advance and in writing, and Seller will follow, all applicable Customer safety and security rules and procedures.

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Proprietary and Confidential

Version: 1

Contract Number: 48779

Drafted by:

CDW, LLC.

5. Customer is responsible for security at all Customer-Designated Locations; Seller is not responsible for lost or stolen equipment.
6. This SOW can be terminated by either party without cause upon at least fourteen (14) days' advance written notice.

SOW TERMS AND CONDITIONS

CONTACT PERSON(S)

Each Party will appoint a person to act as that Party's point of contact ("**Contact Person**") as the time for performance nears and will communicate that person's name and information to the other Party's Contact Person.

The Customer Contact Person is authorized to approve materials and Services provided by Seller, and Seller may rely on the decisions and approvals made by the Customer Contact Person. The Customer Contact Person will manage all communications with Seller, and when Services are performed at a Customer-Designated Location, the Customer Contact Person will be present or available. The Parties' Contact Persons shall be authorized to approve changes in personnel and associated rates for Services under this SOW.

PAYMENT TERMS

Customer will pay invoices containing amounts authorized by this SOW within thirty (30) days of Customer's receipt of the invoice. Any objections to an invoice must be communicated to the Seller Contact Person within fifteen (15) days after receipt of the invoice.

EXPIRATION AND TERMINATION

This SOW expires and will be of no force or effect unless it is signed by Customer and Seller within thirty (30) days from the SOW Created Date, except as otherwise agreed by Seller.

CHANGE ORDERS

This SOW may be modified or amended only in a writing signed by both Customer and Seller, generally in the form provided by Seller ("**Change Order**").

In the event of a conflict between the terms and conditions set forth in a fully executed Change Order and those set forth in this SOW or a prior fully executed Change Order, the terms and conditions of the most recent fully executed Change Order shall prevail.

MISCELLANEOUS

This SOW shall be governed by the executed agreement between the parties covering Customer's purchase of Services from Seller, unless no such agreement has been entered into, in which case the Services will be governed by Seller's "Terms and Conditions of Sales and Service Projects", accessed via the "Terms & Conditions" link at www.cdwg.com (as applicable, the "**Agreement**"). If there is a conflict between this SOW and the Agreement, then the Agreement will control, except as expressly amended in this SOW. This SOW and any Change Order may be signed in separate counterparts, each of which shall be deemed an original and all of which together will be deemed to be one original. Electronic signatures on this SOW or on any Change Order (or copies of signatures sent via electronic means) are the equivalent of handwritten signatures. This SOW is the proprietary and confidential information of Seller.

SIGNATURES

In acknowledgement that the parties below have read and understood this Statement of Work and agree to be bound by it, each party has caused this Statement of Work to be signed and transferred by its respective authorized representative.

CDW Government, LLC.

By: Terrell J. Digitally signed
Name: by Terrell J.
Title: Isselhard, Jr.
Date: 2019.06.06
Jr. 10:32:40 -05'00'

PLEASANTON UNIFIED SCHOOL DISTRICT

By: _____
Name: _____
Title: _____
Date: _____
☐ A purchase order for payment hereunder is attached.
☐ A purchase order is not required for payment hereunder.

Seller Services Manager: Devinder Singh

EXHIBIT A.

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the following locations (“**Customer-Designated Locations**”).


Table 1 – Customer-Designated Locations

Location(s)	Service(s)		
PLEASANTON UNIFIED SCHOOL DISTRICT 4750 First St Pleasanton, CA 94566	<input type="checkbox"/> Assessment <input checked="" type="checkbox"/> Configuration <input checked="" type="checkbox"/> Design	<input type="checkbox"/> Implementation <input checked="" type="checkbox"/> Project Management <input type="checkbox"/> Staff Augmentation	<input type="checkbox"/> Support <input type="checkbox"/> Training <input type="checkbox"/> Custom Work



PUSD Hart Middle School Disaster Recovery Site

Cisco HyperFlex Quote - Hart Middle School

				\$ 170,093.12	
Customer:	Pleasanton Unified School Distirt	Account Manager: Justin Davenport	Quote Date:	March 1st 2019	
Contact:	Amy Nichols		Prep by:	Justin Davenport	
Address:	4750 1st Setreet		Phone:	(312)705-4054	
QUOTE #	Hart Middle School		Toll Free:	(866) 246-8136	
Phone #:	925-596-9660		Email:	justdav@cdwg.com	
Qty x 1: HXAF2X0C-M5S (8x5xNBD)					
QTY	PART #	DESCRIPTION	UNIT COST	EXT. COST	
1	HXAF2X0C-M5S	Cisco Hyperconverged System	\$0.00	0.00	
3	HXAF240C-M5SX	Cisco HyperFlex HX240c M5 All Flash Node	\$841.40	2,524.20	
3	CON-SNT-AF240CSX	SNTC 8X5XNBD Cisco HyperFlex HX240c M5 All Flash Node	\$4,809.90	14,429.70	
6	HX-CPU-6140	2.3 GHz 6140/140W 18C/24.75MB Cache/DDR4 2666MHz	\$1,321.10	7,926.60	
36	HX-MR-X32G2RS-H	32GB DDR4-2666-MHz RDIMM/PC4-21300/dual rank/x4/1.2v	\$355.00	12,780.00	
3	HX-PCI-1-C240M5	Riser 1 incl 3 PCIe slots (x8, x16, x8)	\$32.90	98.70	
3	HX-PCI-2B-240M5	Riser 2B incl 3PCieslots(x8,x16,x8)+2NVMe(1cnctr)supportsGPU	\$32.90	98.70	
39	HX-SD38T61X-EV	3.8TB 2.5 inch Enterprise Value 6G SATA SSD	\$1,632.80	63,679.20	
3	HX-NVMEHW-H1600	1.6TB 2.5in U.2 HGST SN200 NVMe High Perf. High Endurance	\$1,214.20	3,642.60	
3	HX-SD240G61X-EV	240GB 2.5 inch Enterprise Value 6G SATA SSD	\$121.20	363.60	
3	HX-M2-240GB	240GB SATA M.2	\$88.30	264.90	
3	HX-MSD-32G	32GB Micro SD Card for UCS M5 servers	\$36.30	108.90	
6	HX-PSU1-1600W	Cisco UCS 1600W AC Power Supply for Rack Server	\$153.40	920.40	
6	CAB-C13-CBN	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors	\$0.00	0.00	
3	HX-RAILB-M4	Ball Bearing Rail Kit for C220 M4 and C240 M4 rack servers	\$36.30	108.90	
6	SFP-H10GB-CU3M	10GBASE-CU SFP+ Cable 3 Meter	\$16.50	99.00	
3	CVR-QSFP-SFP10G	QSFP to SFP10G adapter	\$57.80	173.40	
6	UCSC-HS-C240M5	Heat sink for UCS C240 M5 rack servers 150W CPUs & below	\$0.00	0.00	
33	UCSC-BBLKD-S2	UCS C-Series M5 SFF drive blanking panel	\$0.00	0.00	
3	UCSC-RNVME-240M5	C240 M5 Rear NVMe CBL(1) kit, Rear NVMe CBL, backplane	\$0.00	0.00	
3	UCS-MSTOR-M2	Mini Storage carrier for M.2 SATA/NVMe (holds up to 2)	\$0.00	0.00	
3	HXAF240C-BZL-M5SX	HXAF240C M5 Security Bezel	\$0.00	0.00	
3	HX-SAS-M5HD	Cisco 12G Modular SAS HBA for up to 26 drives	\$279.60	838.80	
3	HX-MLOM-C25Q-04	Cisco UCS VIC 1457 Quad Port 10/25G SFP28 CNA MLOM	\$371.20	1,113.60	
3	HX-VSP-6-5-FND-D	Factory Installed -vSphere SW 6.5 Enduser to provide License	\$0.00	0.00	
3	HX-VSP-6-5-FND-DL	Factory Installed - VMware vSphere 6.5 SW Download	\$0.00	0.00	
2	HX-FI-6454	UCS Fabric Interconnect 6454	\$8,587.00	17,174.00	
2	CON-SNT-HXFI6454	SNTC-8X5XNBD UCS Fabric Interconnect 6454	\$5,964.30	11,928.60	
2	N10-MGT016	UCS Manager v4.0	\$0.00	0.00	
4	UCS-PSU-6332-AC	UCS 6332 Power Supply/100-240VAC	\$231.20	924.80	
4	CAB-C13-CBN	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors	\$0.00	0.00	
2	UCS-ACC-6332	UCS 6332/ 6454 Chassis Accessory Kit	\$0.00	0.00	
8	UCS-FAN-6332	UCS 6332/ 6454 Fan Module	\$0.00	0.00	
3	HXDP-S001-5YR=	Cisco HyperFlex Data Platform Standard Edition 5 Yr Subscrip	\$0.00	0.00	
3	HXDPS001-5YR	HyperFlex Data Platform Standard Edition 5 Yr Subscription	\$6,579.60	19,738.80	
4	SFP-10G-SR=	10GBASE-SR SFP Module	\$164.30	657.20	
4	SFP-H10GB-CU5M	10GBASE-CU Passive Cable 5M	\$0.00	0.00	

QUOTE CONFIRMATION



DEAR AMY NICHOLS,

Thank you for considering CDW•G for your computing needs. The details of your quote are below. [Click here](#) to convert your quote to an order.

QUOTE #	QUOTE DATE	QUOTE REFERENCE	CUSTOMER #	GRAND TOTAL
KKPL819	2/7/2019	VMWARE SITE 1	1792598	\$43,750.00

QUOTE DETAILS				
ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE
VMware vSphere Enterprise Plus Acceleration Kit (v. 6) - upgrade license - Mfg. Part#: VS6-ESP-EPL-AK-UG-A UNSPSC: 43233006 Electronic distribution - NO MEDIA Contract: Sourcewell Formerly NJPA 100614#CDW Software only (100614#CDW)	1	4038134	\$13,125.00	\$13,125.00
VMware Support and Subscription Production - technical support - for VMware Mfg. Part#: VS6-EPL-AK-P-SSS-A UNSPSC: 81112201 Electronic distribution - NO MEDIA Contract: Sourcewell Formerly NJPA 100614#CDW Software only (100614#CDW)	5	4038121	\$6,125.00	\$30,625.00

PURCHASER BILLING INFO	SUBTOTAL	\$43,750.00
Billing Address: PLEASANTON UNIFIED SCHOOL DISTRICT ACCTS PAYABLE 4750 1ST ST *****MUST SHIP COMPLETE***** PLEASANTON, CA 94566-7334 Phone: (925) 462-5500 Payment Terms: NET 30-VERBAL	SHIPPING	\$0.00
	SALES TAX	\$0.00
	GRAND TOTAL	\$43,750.00
	Please remit payments to: CDW Government 75 Remittance Drive Suite 1515 Chicago, IL 60675-1515	
DELIVER TO		
Shipping Address: PLEASANTON UNIFIED SCHOOL DISTRICT WAREHOUSE PUSD 4750 1ST ST PLEASANTON, CA 94566-7334 Shipping Method: ELECTRONIC DISTRIBUTION		

Need Assistance? CDW•G SALES CONTACT INFORMATION



Justin Davenport

(866) 246-8136

justdav@cdwg.com

This quote is subject to CDW's Terms and Conditions of Sales and Service Projects at <http://www.cdwg.com/content/terms-conditions/product-sales.aspx>
For more information, contact a CDW account manager

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STATEMENT OF WORK

Project Name:	Pleasanton USD - Hart Middle School HX	Seller Representative:
Customer Name:	PLEASANTON UNIFIED SCHOOL DISTRICT	Jeffrey Mitchell 9163374717 jeffmit@cdw.com
CDW Affiliate:	CDW Government, LLC.	
Date Requested:	June 4, 2019	Solution Architect:
Seller Services Manager:	Devinder Singh	Brian Joachim Prem Jain
Version:	1	

This statement of work ("Statement of Work" or "SOW") is made and entered into on the date this SOW is signed by both parties (the "SOW Effective Date") by and between the undersigned, CDW Government, LLC. ("Provider", "Seller" and "we") and PLEASANTON UNIFIED SCHOOL DISTRICT ("Customer" and "you").

PROJECT DESCRIPTION

PROJECT SCOPE

This scope of engagement, together with the Agreement between the CDW entity selling the Services described herein ("Seller" or "Provider"), and the Customer ordering such Services ("Customer"), shall be deemed to be a contract upon Seller's acceptance of Customer's Purchase Order ("PO").

SERVICES SUMMARY

Seller will perform the following:

CISCO HYPERFLEX CLUSTER DEPLOYMENT SERVICES (UP TO 4 NODES) - ONSITE

The Seller will conduct a Cisco HyperFlex cluster deployment with Customer at the specified location. This engagement will include a hands-on overview and installation/implementation of the HyperFlex solution. As part of this engagement, services will consist of the items listed below ("Services"):

- Pre-Engagement Call (Customer Kick-off Meeting)
 - Review scope and expectations
 - Identify stakeholders and key contacts
 - Identify project constraints and limitations
- HyperFlex Cluster Design and Planning Session
 - Remote session with Customer and Seller to discuss design and planning variables
 - Present HyperFlex architecture and components
 - Perform verification of site readiness for service delivery
 - Discuss and review hardware requirements and system prerequisites
 - Work with Customer to design the layout and configuration of the HyperFlex cluster

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Drafted by:

CDW, LLC.

- Discussions around layer2 data and management networking, cluster layout, design variables, and relevant items for the cluster build.
 - Discussions around VMware vSphere integration and design variables
 - Complete discovery, configuration, and HyperFlex cluster pre-installation checklist and review with Customer
 - Complete solution summary documentation and applicable Visio drawings
- HyperFlex Cluster Deployment and Configuration
 - Performs the pre-site installation checklist with Customer team
 - Confirms network and connected switch settings
 - Conducts a site readiness assessment for project
 - Completes the HyperFlex pre-installation site checklist
 - Racks, cables, and power testing of HyperFlex cluster hardware
 - Initial Imaging and OS installation for all nodes in cluster via Cisco HX Data Platform Installer
 - Deployment and initial configuration of UCS Fabric Interconnects
 - Install any prerequisite UCS firmware prior to HX imaging
 - Deployment and configuration of HX Data Platform Installer appliance
 - Validation of
 - IP, DNS, NTP, data network settings
 - Node/cluster intercommunication
 - Controller Virtual Machine (CVM) Validation
- VMware vSphere Integration and HyperFlex Cluster Configuration
 - Perform vSphere and vCenter integration configuration of HX cluster
 - Addition of HX ESXi nodes to a new cluster within existing vCenter
 - HA/DRS settings
 - ESXi licensing
 - Additional ESXi host networking
 - Update ESXi host passwords
 - Validation of HX plugin installation and usage
 - VM Datastore provisioning/HA heartbeat configuration
 - Enable HX Connect Auto Support
 - Setup replication pairs (if multiple HyperFlex sites are part of SoW)
- Cisco Intersight Integration
 - Registration and integration of HyperFlex cluster into Cisco Intersight portal
- Functional Demonstration and Knowledge Transfer around HyperFlex cluster
 - HX Installer Platform Overview and Administration
 - vCenter Web Client Overview and Administration via HX plugin
 - Functional Demonstration of HyperFlex administration
 - HyperFlex Upgrade (if available)
 - HyperFlex Scalability (addition of nodes)
 - Monitoring of HyperFlex cluster
 - Workload Migration
 - Migration or creation of up to five (5) non-production VMs to HyperFlex cluster, using available tools

CUSTOMER RESPONSIBILITIES

1. Customer must have vCenter Server or Appliance already installed and configured in environment, unless otherwise stated in the “Services Summary” section. vCenter must be at minimum version supported by HyperFlex version or be upgraded to such by Customer prior to HyperFlex implementation.
2. Customer needs to have a 10GbE Top-of-Rack (ToR) switches to use with the UCS cluster and it must have the appropriate number of 10GbE open ports available/licenses to connect to the Fabric Interconnects.
3. Customer needs to have a management switch that will be used for OOB connectivity to the Fabric Interconnects. Although not recommended, the same switch for ToR connectivity can be used for management if the applicable ports are available.
4. Configuration of network switches for data and management will be completed by the Customer unless explicitly stated otherwise in the “Services Summary” section above.
5. Assist Seller with project planning and design variable gathering.
6. Customer is responsible for creating a backup of the VMs to be test migrated
7. Customer shall provide Provider with detailed and accurate information regarding its current network environment, including information regarding network provisioning, TCP/IP settings, server hardware details, software versions, or regulatory requirements. Inaccurate information may add time and cost to the project.
8. Customer shall perform a full working backup of its network prior to commencement of the Services. Seller is not responsible for lost data.
9. Provide qualified personnel who will perform Customer’s obligations under this SOE, make timely decisions necessary to move performance of the Services forward, participate in this project to the extent reasonably requested by Seller and reasonably assist Seller with its performance of the Services
10. Provide Seller’s personnel with appropriate levels of access and privilege to systems and information necessary for Seller’s performance of the Services
11. Limiting access to Customer’s network and/or facilities only as needed to perform the Services
12. Make any final decisions regarding, and take responsibility for the implementation of any recommendations or potential solutions provided by Seller under this SOE
13. Site Preparation:
 - All hardware will be received and inventoried prior to scheduling Seller to arrive on site. All hardware/software/firmware are compatible in accordance with manufactures support matrix(s)
 - Complete all change control task(s) and schedule all required maintenance windows.
 - Customer shall assume all responsibility for site preparation, including space, cabling, HVAC and electrical requirements that have already been provided.
 - Customer is responsible for providing customer-owned or licensed copies of any customer or third-party software that Seller is required to install on the Customer’s behalf.

ASSUMPTIONS AND ACKNOWLEDGEMENTS

1. Services will be delivered onsite
2. Customer’s personnel will be available on a timely basis, and when reasonably requested by Seller, Customer’s personnel will provide input, review the Services being performed and the items provided by Seller, answer questions, provide signoff, and allow Seller to gather and validate information, perform reviews and obtain other input
3. The scope and objectives of this project will be jointly managed by Customer and Seller to better ensure completion of the project within the anticipated schedule
4. Customer acknowledges and agrees that Seller will not process personal data that is subject to applicable data security and privacy laws (“**Personal Data**”) within the scope of the Services, and that Customer will restrict Seller from accessing any Personal Data during the performance of the Services

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Version: 1

Contract Number: 48781

Drafted by:

CDW, LLC.

ENGAGEMENT PLANNING AND MANAGEMENT

These tasks will ensure that project completion meets all requirements outlined in the scope of services. It includes the following activities:

- Internal Project Technical Planning
 - Solution and Technical Architecture Review and planning
 - Clearly define project scope, objectives, risks and approach
 - Develop a Work Breakdown Structure and Develop a Project Plan
 - Develop Communication and Escalation Plan
 - Identify project resources, roles, and responsibilities
 - Confirm site readiness and documentation
- External Project Meeting
 - Introduce key participants, stakeholders and project teams
 - Verify hardware delivery and specifications
 - Solution, requirements and logistics Review
 - Review and approve project plan
- Project Management
 - Task and resource scheduling and assignment
 - Administration, Financial and Team management
 - Escalation and communication management
 - Change control and management
 - Status meetings and reporting
 - Project Closeout

OUT OF SCOPE

1. Data migration services outside of pilot migration (to be quoted separately)
2. Addition of UCS chassis and compute nodes (to be quoted separately)
3. Services do not apply to the addition of existing UCS infrastructure to HyperFlex cluster (new hardware only)
4. vRealize Operations and UCS Performance Manager (to be quoted separately)
5. Migration or movement of vCenter to be within the HyperFlex cluster (to be quoted separately)
6. Firmware upgrades for non-UCS hardware
7. Configuration of LAN/SAN switches
8. Remediation of any issues or problems is out of scope for this engagement
9. Seller will not perform Services for Customer's foreign affiliates if any
10. Any other Services not specified herein
11. Replacement of any security certificates.
12. Any P2V conversions

Tasks not defined within this SoW

Services not specified in this SOW are considered out of scope and will be addressed with a separate SOW or Change Order.

ITEM(S) PROVIDED TO CUSTOMER

Page 4

Proprietary and Confidential

Version: 1

Contract Number: 48781

Drafted by:

CDW, LLC.

The following will be provided to Customer by the completion of this project.

Table 1 – Item(s) Provided to Customer

Item	Description	Format
HX Pre-Installation Checklist	Pre-installation checklist for the project	PDF
HX Administration Documentation	Vendor Procedural documentation	PDF

PROJECT SCHEDULING

Customer and Seller, who will jointly manage this project, will together develop timelines for an anticipated schedule (“**Anticipated Schedule**”) based on Seller’s project management methodology. Any dates, deadlines, timelines or schedules contained in the Anticipated Schedule, in this SOW or otherwise, are estimates only, and the Parties will not rely on them for purposes other than initial planning.

TOTAL FEES

The total fees due and payable under this SOW (“**Total Fees**”) include both fees for Seller’s performance of work (“**Service Fees**”) and any other related costs and fees specified in the Expenses section (“**Expenses**”). Unless otherwise specified, taxes will be invoiced but are not included in any numbers or calculations provided herein.

Seller will invoice for the Total Fees.

SERVICES FEES

Services Fees hereunder are FIXED FEES, meaning that the amount invoiced for the Services will be \$8,645.00.

The invoiced amount of Services Fees will equal the amount of fees applicable to each completed project milestone, as specified in Table 2.

Table 2 – Services Fees

Project Milestones	Percentage	Fees
Completion of Work	100%	\$8,645.00
Totals	100%	\$8,645.00

EXPENSES

Neither travel time nor direct expenses will be billed for this project.

Two (2) weeks’ advance notice from Customer is required for any necessary travel by Seller personnel.

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the locations specified on the attached Exhibit (“**Customer-Designated Locations**”).

PROJECT-SPECIFIC TERMS

1. Customer is responsible for providing all physical and communications access, privileges, environmental conditions, properly functioning hardware and software, qualified personnel, project details, material information, decisions/directions, and personnel and stakeholder interviews that are reasonably necessary to assist and accommodate Seller’s performance of the Services (“Customer Components”).
2. Seller is not responsible for delays in performance directly caused by the unavailability of the Customer Components and will have the right, with prior written notice and after a reasonable opportunity for Customer to correct the failure, to reassign Seller personnel to work unrelated to this SOW and the services hereunder or to invoice Customer for time Seller personnel are thereby idled if reassignment is not feasible.
3. Both parties will treat all employee personally identifiable information as confidential per the Agreement.
4. Customer will provide in advance and in writing, and Seller will follow, all applicable Customer safety and security rules and procedures.
5. Customer is responsible for security at all Customer-Designated Locations; Seller is not responsible for lost or stolen equipment.
6. This SOW can be terminated by either party without cause upon at least fourteen (14) days’ advance written notice.

SOW TERMS AND CONDITIONS

CONTACT PERSON(S)

Each Party will appoint a person to act as that Party's point of contact ("**Contact Person**") as the time for performance nears and will communicate that person's name and information to the other Party's Contact Person.

The Customer Contact Person is authorized to approve materials and Services provided by Seller, and Seller may rely on the decisions and approvals made by the Customer Contact Person. The Customer Contact Person will manage all communications with Seller, and when Services are performed at a Customer-Designated Location, the Customer Contact Person will be present or available. The Parties' Contact Persons shall be authorized to approve changes in personnel and associated rates for Services under this SOW.

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Customer will pay invoices containing amounts authorized by this SOW within thirty (30) days of Customer's receipt of the invoice. Any objections to an invoice must be communicated to the Seller Contact Person within fifteen (15) days after receipt of the invoice.

EXPIRATION AND TERMINATION

This SOW expires and will be of no force or effect unless it is signed by Customer and Seller within thirty (30) days from the SOW Created Date, except as otherwise agreed by Seller.

CHANGE ORDERS

This SOW may be modified or amended only in a writing signed by both Customer and Seller, generally in the form provided by Seller ("**Change Order**").

In the event of a conflict between the terms and conditions set forth in a fully executed Change Order and those set forth in this SOW or a prior fully executed Change Order, the terms and conditions of the most recent fully executed Change Order shall prevail.

MISCELLANEOUS

This SOW shall be governed by the executed agreement between the parties covering Customer's purchase of Services from Seller, unless no such agreement has been entered into, in which case the Services will be governed by Seller's "Terms and Conditions of Sales and Service Projects", accessed via the "Terms & Conditions" link at www.cdwg.com (as applicable, the "**Agreement**"). If there is a conflict between this SOW and the Agreement, then the Agreement will control, except as expressly amended in this SOW. This SOW and any Change Order may be signed in separate counterparts, each of which shall be deemed an original and all of which together will be deemed to be one original. Electronic signatures on this SOW or on any Change Order (or copies of signatures sent via electronic means) are the equivalent of handwritten signatures. This SOW is the proprietary and confidential information of Seller.

SIGNATURES

In acknowledgement that the parties below have read and understood this Statement of Work and agree to be bound by it, each party has caused this Statement of Work to be signed and transferred by its respective authorized representative.

CDW Government, LLC.

PLEASANTON UNIFIED SCHOOL DISTRICT

By: Terrell J.
Name: Terrell J. Isselhard, Jr.
Title: Isselhard,
Date: Jr.
Digitally signed by
Terrell J. Isselhard, Jr.
Date: 2019.06.06
10:27:54 -05'00'

By: _____
Name: _____
Title: _____
Date: _____
☐ A purchase order for payment hereunder is attached.
☐ A purchase order is not required for payment hereunder.

Seller Services Manager: Devinder Singh

EXHIBIT A.

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the following locations (“**Customer-Designated Locations**”).

Table 1 – Customer-Designated Locations

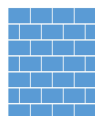
Location(s)	Service(s)		
Hart Middle School 4433 Willow Rd Pleasanton, CA 94588	<input type="checkbox"/> Assessment <input checked="" type="checkbox"/> Configuration <input checked="" type="checkbox"/> Design	<input type="checkbox"/> Implementation <input checked="" type="checkbox"/> Project Management <input type="checkbox"/> Staff Augmentation	<input type="checkbox"/> Support <input type="checkbox"/> Training <input type="checkbox"/> Custom Work



Primary Data Center – Dist.. Office

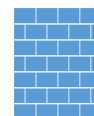


DR Site – Hart Middle School

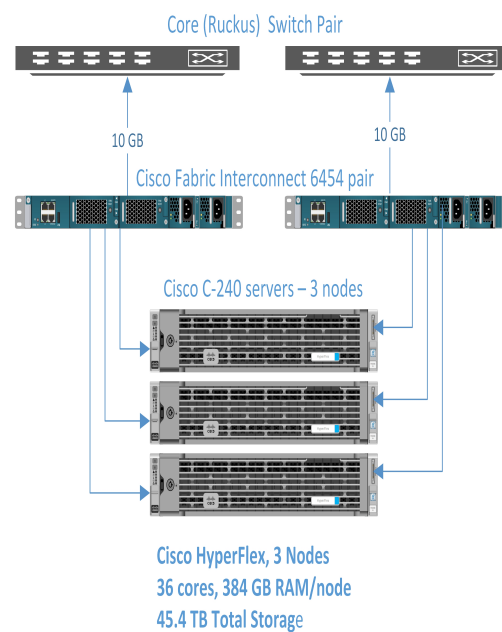
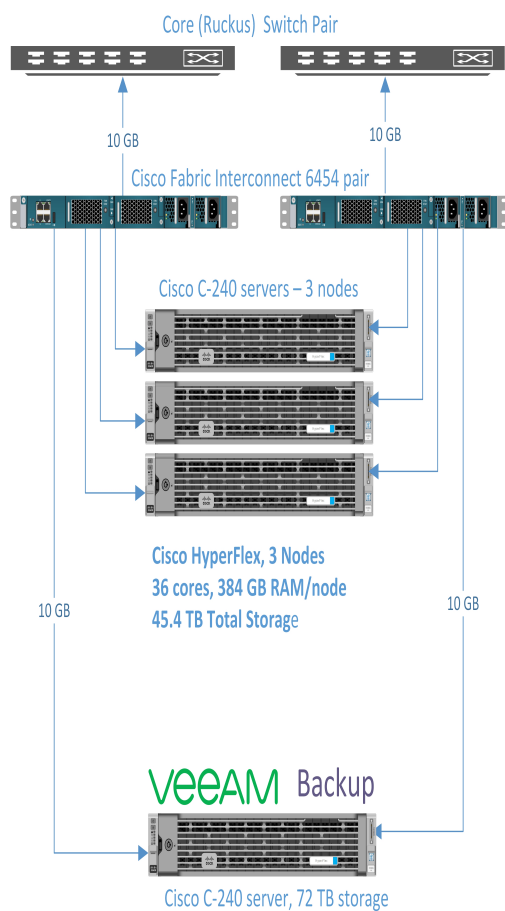


Firewall

1 GB MPLS



Firewall





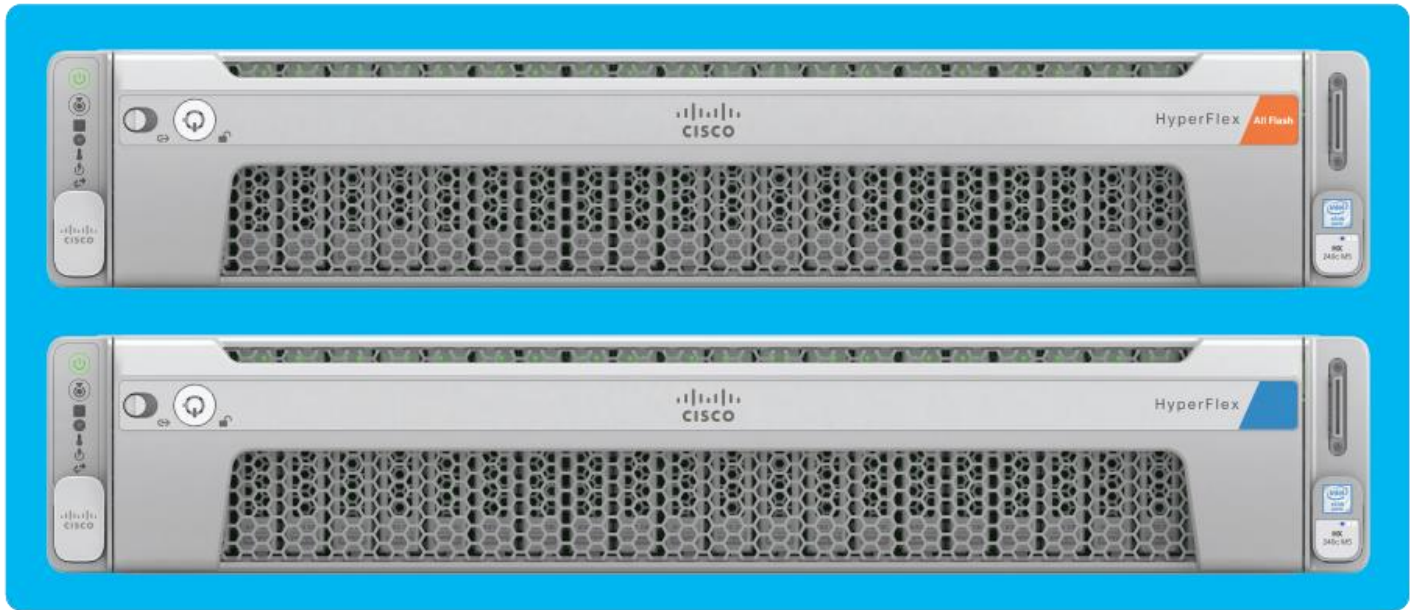
PUSD Project Pricing Summary

Pleasanton USD Overview		Cost
District Office		
District Office Cisco HyperFlex Quote		\$ 170,093.12
District Office Cisco HyperFlex Install Scope of Work		\$ 10,900.00
District Office Data Migration Scope of Work		\$ 13,130.00
District Office vSphere Enterprise Plus Quote		\$ 43,750.00
District Office Veeam Backup and Recovery		\$ 12,259.32
District Office Cisco UCS Storage Node		\$ 11,191.90
District Office Cisco UCS Storage Node Scope of Work		\$ 8,850.00
Hart Middle School - Disaster Recovery Site		
Hart Middle School Cisco HyperFlex Quote		\$ 170,093.12
Hart Middle School Cisco HyperFlex Install Scope of Work		\$ 8,645.00
Hart Middle School VMware vSphere Enterprise Plus Quote		\$ 43,750.00
Total		\$ 492,662.46



Manufacturer Product Spec Sheets

Cisco HyperFlex HX240c M5 Node and HX240c M5 All Flash Node



Hyperconvergence engineered on the fifth-generation Cisco UCS platform

Mobility, big data, and the Internet of Everything (IoE) are changing application architectures and IT delivery models. Keeping pace requires a systems-centric strategy in your data center. Cisco HyperFlex™ systems deliver adaptability with complete hyperconvergence. These innovative systems combine software-defined networking and computing with the next-generation Cisco HyperFlex HX Data Platform. Engineered on the Cisco Unified Computing System™ (Cisco UCS®), Cisco HyperFlex systems deliver pay-as-you-grow economics and extend model-based management to the cloud.

Simplicity you can build on

With hybrid or all-flash-memory storage configurations and a choice of management tools, Cisco HyperFlex systems are deployed as a preintegrated cluster with a unified pool of resources that you can quickly provision, adapt, scale, and manage to efficiently power your applications and your business (Figure 1).

Cisco HyperFlex systems now include Cisco UCS M5 rack servers. Based on Intel® Xeon® Scalable processors, these fifth-generation servers have faster processors, more cores, and faster and larger-capacity memory than previous-generation servers. In addition, they are ready for Intel 3D XPoint nonvolatile memory, which can be used as both storage and system memory, increasing your virtual server configuration options and flexibility for applications.

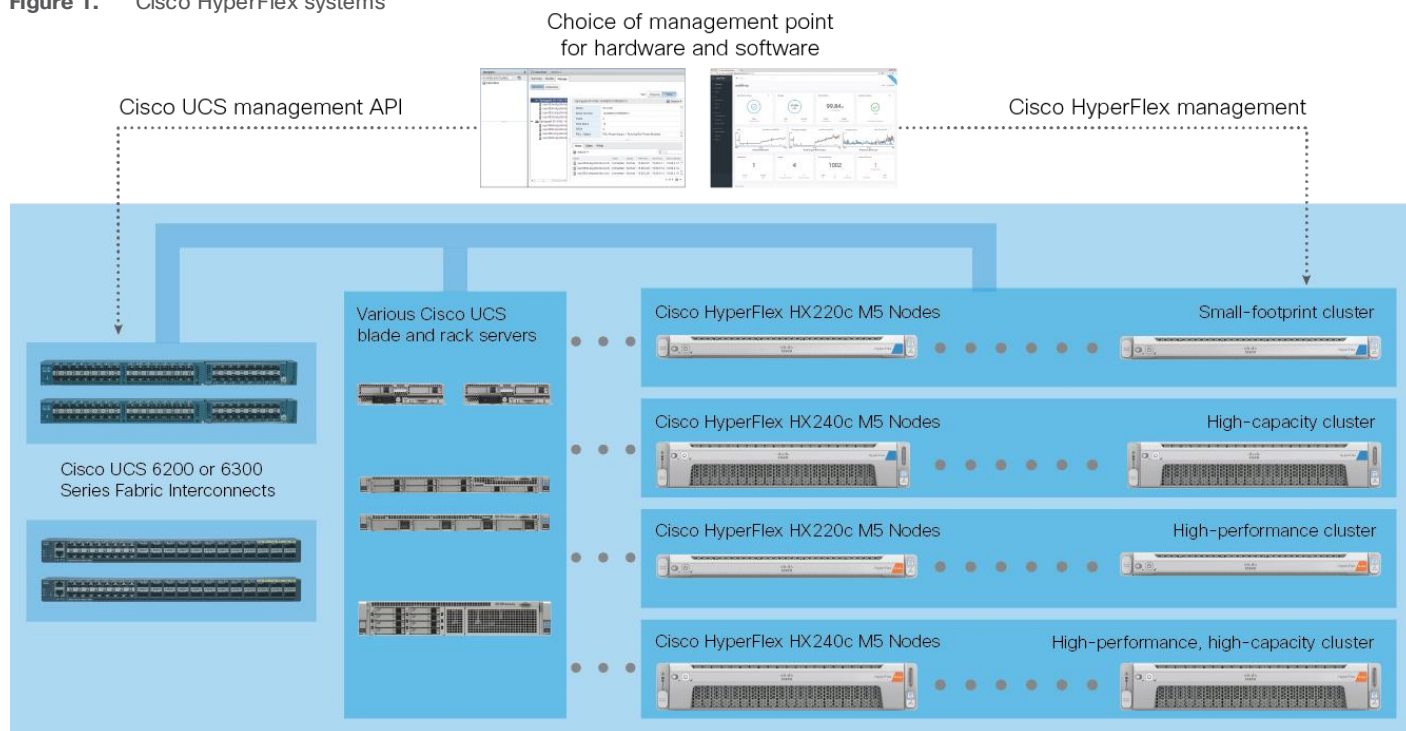
Cisco HyperFlex HX240c M5 Node and HX240c M5 All Flash Node

Physically, the system is delivered as a cluster of three or more Cisco HyperFlex HX240c M5 Nodes or HX240c M5 All Flash Nodes that are integrated into a single system by a pair of Cisco UCS 6200 or 6300 Series Fabric Interconnects. The HX240c M5 Node is excellent for high-capacity clusters, and the HX240c M5 All Flash Node is excellent for high-performance, high-capacity clusters. Each node configuration includes the following (for details, see Table 1):

- Hard-disk drives (HDDs) with 27.6 TB or solid-state disk (SSD) drives with up to 87.4 TB of capacity-layer storage (self-encrypting drive options are available)
- Write-logging SAS SSD or Non-Volatile Memory Express (NVMe) drive (self-encrypting drive options are available)
- Data platform logging drive
- M.2 boot drive for VMware vSphere
- One Cisco UCS virtual interface card (VIC)
- VMware vSphere ESXi 6.0 software preinstalled (ESXi 6.5 is supported but is not preinstalled)
- Cisco UCS service profile templates for automated cluster configuration

All nodes use Intel Xeon Scalable CPUs and next-generation DDR4 memory and offer 12-Gbps SAS throughput. They deliver significant performance and efficiency gains and outstanding levels of adaptability in a 2-rack-unit (2RU) form factor.

Figure 1. Cisco HyperFlex systems



Hybrid configurations

The HX240c M5 Node and HX240c M5 All Flash Node can be deployed with various Cisco UCS B-Series Blade Servers and C-Series Rack Servers to create a hybrid cluster. With a single point of connectivity and management, you can easily scale your cluster to support more workloads and deliver the performance, bandwidth, and low latency that your users and applications need.

Product features and benefits

Table 1 summarizes the features and benefits of the HX240c M5 Node and HX240c M5 All Flash Node.

Table 1. Features and benefits

Feature	Benefit
Memory	Up to 3 TB of memory Capability to use 16-, 32-, 64-GB, or 128-GB DIMMs
1 or 2 Intel Xeon Scalable processors	<p>Built on 14-nanometer (nm) processor technology, Intel Xeon Scalable processors are designed to deliver highly robust capabilities with outstanding performance, security, and agility.</p> <ul style="list-style-type: none"> Up to 28 cores in 2-socket configurations Top-of-the-line memory-channel performance Three Intel Ultra Path Interconnect (UPI) links across sockets for improved scalability and intercore data flow Hardware-assisted security advancements Low-power, high-speed DDR4 memory technology Increased performance with Intel Automated Vector Extensions 2 (AVX2) Increased virtual machine density Automated energy efficiency that reduces energy costs by automatically putting the processor and memory in the lowest available power state while still delivering the performance required Flexible virtualization technology that optimizes performance for virtualized environments, including processor support for migration and direct I/O Innovation with the latest processors, which increase processor frequency and improve security <p>With the increased performance provided by the Intel Xeon Scalable processors, Cisco HyperFlex HX-Series nodes offer an improved price-to-performance ratio, making HX-Series systems among the best values in the industry.</p>
Support for up to 6 PCI Express (PCIe) 3.0 slots, 4 of which are full-height, full-length	<p>Flexibility, increased performance, and compatibility with industry standards</p> <p>High I/O bandwidth, increased flexibility, and backward compatibility with support for PCIe 2.0</p> <p>2 slots capable of graphics processing unit (GPU) support for enhanced virtual desktop infrastructure (VDI) capabilities</p>
Modular LAN on motherboard (mLOM)	<p>Cisco UCS VICs provide up to 256 I/O devices programmable on demand for hypervisor and virtual machine support. Cisco UCS VIC 1387 provides 2 x 40-Gbps network connectivity to Cisco UCS 6300 Series Fabric Interconnects. 10-Gbps QSFP-to-SFP adapters (QSAs) are available when connection to Cisco UCS 6200 Series Fabric Interconnect is desired.</p>
Unified network fabric	<p>Low-latency, lossless, 2 x 40 Gigabit Ethernet</p> <p>Wire-once deployment model, eliminating the need to install adapters and recable racks and switches when changing I/O configurations</p> <p>Fewer interface cards, cables, and upstream network ports to purchase, power, configure, and maintain</p>
Virtualization optimization	<p>I/O virtualization and Intel Xeon Scalable processor features, extending the network directly to virtual machines</p> <p>Consistent and scalable operational model</p> <p>Increased security and efficiency with reduced complexity</p> <p>Capability to move virtual machine security features and policies from rack to rack or rack to blade</p>
Choice of management tools	<p>Managed as a single entity through a vSphere web client plug-in or through the Cisco HyperFlex Connect HTML5 interface</p> <p>Built-in role- and policy-based management through service profiles and templates, enabling more effective use of skilled server, network, and storage administrators</p> <p>Automated provisioning and increased business agility, allowing data center managers to provision applications in minutes rather than days by associating a service profile with a new, added, or repurposed HX240c M5 Node or HX240c All Flash Node</p>

Storage	<p>All-flash-memory or hybrid (HDD and SSD memory) storage configurations</p> <p>High-capacity configurations for the HX Data Platform capacity layer</p> <p>HX240c M5 All Flash Node: Up to 23 x 3.8-TB or 23 x 960-GB SSDs for the capacity tier and 1 SAS SSD or NVMe write-logging drive</p> <p>HX240c M5 All Flash Node with self-encrypting drives: Up to 23 x 800-GB self-encrypting SSDs or 23 x 960-GB or 23 x 3.8-TB drives for the capacity tier and 1 self-encrypting SSD write-logging drive</p> <p>HX240c M5 Node: Up to 23 x 1.2-TB SAS HDDs for the capacity tier and 1 x 1.6-TB SSD caching drive</p> <p>HX240c M5 Node with self-encrypting drives: Up to 23 x 1.2-TB self-encrypting HDDs and 1 x 1.6-TB self-encrypting SSD caching drive</p> <p>1 x 240-GB SSD log drive</p> <p>Modular M.2 boot drive</p> <p>Cisco 12-Gbps Modular SAS host bus adapter (HBA) with internal SAS connectivity</p>
Enterprise data protection	<p>Pointer-based snapshot capabilities</p> <p>Near-instant cloning</p> <p>Inline deduplication and compression</p> <p>Native replication for disaster recovery</p> <p>Data-at-rest encryption using self-encrypting drives and enterprise key management integration</p>
Cisco® Integrated Management Controller (IMC)	<p>Connection to Cisco UCS management or the Cisco HyperFlex dashboard for automated configuration through a unified interface</p>
Advanced reliability, availability, and serviceability (RAS) features	<p>Highly available and self-healing architecture</p> <p>Robust reporting and analytics</p> <p>Hot-swappable, front-accessible drives</p> <p>Dual-redundant fans and hot-swappable, redundant power supplies for enterprise-class reliability and uptime</p> <p>Convenient latching lid for easy access to internal server</p> <p>Tool-free CPU insertion, enabling processor upgrades and replacements with less risk of damage</p> <p>Tool-free access to all serviceable items, and color-coded indicators to guide users to hot-pluggable and serviceable items</p> <p>Nondisruptive rolling upgrades</p> <p>Cisco Call Home and onsite 24-hours-a-day, 7-days-a-week (24 x 7) support options</p>
Security features	<p>Trusted Platform Module (TPM), a chip (microcontroller) that can securely store artifacts, including passwords, certificates, and encryption keys, that are used to authenticate the platform (node); TPM 1.2 SPI is supported</p> <p>Locking bezel option to protect against unauthorized access to disk drives</p>
Software	<p>Cisco HyperFlex HX Data Platform Software (software subscription)</p>

Product specifications

Table 2 lists specifications for the HX240c M5 Node and HX240c M5 All Flash Node.

Table 2. Product specifications

Item	Specification
Chassis	2RU of rack space for the node
Processors	1 or 2 Intel Xeon Scalable CPUs (For a complete list of processor options, refer to the node's technical specifications documents.)
Interconnect	3 Intel UPI channels per processor, each capable of 10.4 gigatransfers per second (GTPS)
Chip set	Intel C620 series
Memory	24 DDR4 DIMM slots Support for DDR4 registered DIMMs (RDIMMs) Advanced error-correcting code (ECC) Independent channel mode Lockstep channel mode
PCIe slots	Up to 6 PCIe 3.0 slots
mLOM	Cisco UCS VIC 1387
Power supplies	Up to 2 hot-pluggable, redundant 1050-watt (W) or 1600W power supplies
IMC	Integrated baseboard management controller (BMC) IPMI 2.0 compliant for management and control One 10/100/1000 Ethernet out-of-band management interface Command-line interface (CLI) and web GUI management tool for automated, lights-out management Keyboard, video, and mouse (KVM) console
Front-panel connector	One KVM console connector (supplies 2 USB connectors, 1 VGA connector, and 1 serial connector)
Front-panel locator LED	Indicator to help direct administrators to specific servers in large data center environments
Additional rear connectors	Additional interfaces including a Video Graphics Array (VGA) video port, 2 USB 3.0 ports, an RJ45 serial port, a 1 Gigabit Ethernet management port, and dual 10 Gigabit Ethernet ports
Rail-kit options	Cisco ball-bearing rail kit with optional reversible cable-management arm Cisco friction rail kit with optional reversible cable-management arm
Software support	ESX 6.5 ESX 6.0 Cisco UCS Manager 3.2

Ordering information

For a complete list of part numbers, refer to the [HX240c M5 Node](#) and [HX240c M5 All Flash Node](#) specification sheets.

Cisco Unified Computing Services

Cisco and our industry-leading partners deliver services that accelerate your transition to Cisco HyperFlex systems. Cisco Unified Computing Services can help you create an agile infrastructure, accelerate time-to-value, reduce costs and risks, and maintain availability during deployment and migration. After you have deployed your system, our services can help you improve performance, availability, and resiliency as your business needs evolve and help you further mitigate risk.

Cisco Capital financing to help you achieve your objectives

Cisco Capital® financing can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce capital expenditures (CapEx), accelerate your growth, and optimize your investment dollars and ROI. Cisco Capital financing gives you flexibility in acquiring hardware, software, services, and complementary third-party equipment. And there's just one predictable payment. Cisco Capital financing is available in more than 100 countries. [Learn more.](#)

For more information

For more information about Cisco HyperFlex systems, refer to <http://www.cisco.com/go/hyperflex>.

Cisco HyperFlex™ systems with Intel® Xeon® processors



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Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

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The Cisco UCS® C240 M5 Rack Server delivers industry-leading performance and expandability.

Product Overview

The Cisco UCS C240 M5 Rack Server is a 2-socket, 2-Rack-Unit (2RU) rack server offering industry-leading performance and expandability. It supports a wide range of storage and I/O-intensive infrastructure workloads, from big data and analytics to collaboration. Cisco UCS C-Series Rack Servers can be deployed as standalone servers or as part of a Cisco Unified Computing System™ (Cisco UCS) managed environment to take advantage of Cisco's standards-based unified computing innovations that help reduce customers' Total Cost of Ownership (TCO) and increase their business agility.

In response to ever-increasing computing and data-intensive real-time workloads, the enterprise-class Cisco UCS C240 M5 server extends the capabilities of the Cisco UCS portfolio in a 2RU form factor. It incorporates the Intel® Xeon® Scalable processors, supporting up to 20 percent more cores per socket, twice the memory capacity, and five times more.

Non-Volatile Memory Express (NVMe) PCI Express (PCIe) Solid-State Disks (SSDs) compared to the previous generation of servers. These improvements deliver significant performance and efficiency gains that will improve your application performance. The C240 M5 delivers outstanding levels of storage expandability with exceptional performance, with:

- The latest second-generation Intel Xeon Scalable CPUs, with up to 28 cores per socket
- Supports the first-generation Intel Xeon Scalable CPU, with up to 28 cores per socket
- Support for the Intel Optane DC Persistent Memory (128G, 256G, 512G)¹
- Up to 24 DDR4 DIMMs for improved performance including higher density DDR4 DIMMs
- Up to 26 hot-swappable Small-Form-Factor (SFF) 2.5-inch drives, including 2 rear hot-swappable SFF drives (up to 10 support NVMe PCIe SSDs on the NVMe-optimized chassis version), or 12 Large-Form-Factor (LFF) 3.5-inch drives plus 2 rear hot-swappable SFF drives
- Support for 12-Gbps SAS modular RAID controller in a dedicated slot, leaving the remaining PCIe Generation 3.0 slots available for other expansion cards
- Modular LAN-On-Motherboard (mLOM) slot that can be used to install a Cisco UCS Virtual Interface Card (VIC) without consuming a PCIe slot, supporting dual 10- or 40-Gbps network connectivity
- Dual embedded Intel x550 10GBASE-T LAN-On-Motherboard (LOM) ports
- Modular M.2 or Secure Digital (SD) cards that can be used for boot

¹ Requires a DDR4 DIMM for deployment. The sizes of DCPMM must be the same and the DDR4 DIMMS must be the same. But between the DCPMM and DIMMs, the sizes may vary, as shown in the 18-TB configuration described earlier in this data sheet.

High Performance for Data-Intensive Applications

The Cisco UCS C240 M5 rack server is well-suited for a wide range of enterprise workloads, including:

- Big data and analytics
- Collaboration
- Small and medium-sized business databases
- Virtualization and consolidation
- Storage servers
- High-performance appliances

C240 M5 servers can be deployed as standalone servers or in a Cisco UCS managed environment. When used in combination with Cisco UCS Manager, the C240 M5 brings the power and automation of unified computing to enterprise applications, including Cisco® SingleConnect technology, drastically reducing switching and cabling requirements.

Cisco UCS Manager uses service profiles, templates, and policy-based management to enable rapid deployment and help ensure deployment consistency. It also enables end-to-end server visibility, management, and control in both virtualized and bare-metal environments.

The Cisco Integrated Management Controller (IMC) delivers comprehensive out-of-band server management with support for many industry standards, including:

- Redfish Version 1.0.1 (v1.0.1)
- Intelligent Platform Management Interface (IPMI) v2.0
- Simple Network Management Protocol (SNMP) v2 and v3
- Syslog
- Simple Mail Transfer Protocol (SMTP)
- Key Management Interoperability Protocol (KMIP)
- HTML5 GUI
- HTML5 virtual Keyboard, Video, and Mouse (vKVM)
- Command-Line Interface (CLI)
- XML API

Management Software Development Kits (SDKs) and DevOps integrations exist for Python, Microsoft PowerShell, Ansible, Puppet, Chef, and more. For more information about integrations, see Cisco DevNet (<https://developer.cisco.com/site/ucs-dev-center/>).

The C240 M5 is Cisco Intersight™ ready. Cisco Intersight is a new cloud-based management platform that uses analytics to deliver proactive automation and support. By combining intelligence with automated actions, you can reduce costs dramatically and resolve issues more quickly.

Product Specifications

Table 1 lists the specifications for the Cisco UCS C240 M5 Rack Server.

Table 1. Specifications

Item	Specifications
Form factor	2RU rack server
Processors	Intel® Xeon® Scalable processors (1 or 2) or second-generation Intel Xeon Scalable processors
Memory	24 DDR4 DIMM slots: 8, 16, 32, 64, and 128 GB and up to 2666 MHz Support for the Intel Optane DC Persistent Memory (128G, 256G, 512G)
PCIe expansion	6 PCIe 3.0 slots plus 1 dedicated 12-Gbps RAID controller slot and 1 dedicated mLOM slot
RAID controllers	<ul style="list-style-type: none"> Internal controllers: Cisco 12-Gbps Modular RAID Controller (PCIe 3.0) with 2- or 4-GB Flash-Backed Write Cache (FBWC), providing enterprise-class data protection for up to 26 SAS and SATA Hard Disk Drives (HDDs), SSDs, or NVMe PCIe SSDs; or Cisco 12-Gbps Modular SAS Host Bus Adapter (HBA) External controller: Cisco 12-Gbps 9400-8e SAS HBA
Internal storage	Backplane options: <ul style="list-style-type: none"> Up to 26 x 2.5-inch SAS and SATA HDDs and SSDs and up to 4 NVMe PCIe drives Up to 10 x 2.5-inch NVMe PCIe and 16 SAS and SATA HDDs and SSDs Up to 12 x 3.5-inch SAS and SATA HDDs and SSDs, and 2 rear 2.5-inch HDDs and SSDs and up to 4 NVMe PCIe drives
Embedded Network Interface Cards (NICs)	Dual 10GBASE-T Intel x550 Ethernet ports
mLOM	Dedicated mLOM slot that can flexibly accommodate 1-, 10-, 25-, 40-, and 100-Gbps adapters
Power supplies	Hot-pluggable, redundant 770W AC, 1050W AC, 1050W DC, and 1600W AC
Other storage	<ul style="list-style-type: none"> Dual internal Cisco FlexFlash SD cards (32, 64, and 128 GB) for installing an operating system or hypervisor Support for RAID 0 mirroring between SD cards Dedicated Baseboard Management Controller (BMC) MicroSD card (32 GB) for server utilities Dual M.2 SATA SSD or NVMe
Management	<ul style="list-style-type: none"> Cisco® Intersight™ Cisco Integrated Management Controller (IMC) Cisco Integrated Management Controller (IMC) Supervisor Cisco UCS Manager Cisco UCS Central Software Cisco UCS Director Cisco UCS Performance Manager
Rack options	Cisco ball-bearing rail kit with optional reversible cable management farm
Hardware and software interoperability	See the Cisco Hardware and Software Interoperability List for a complete listing of supported operating systems and peripheral options.

System Requirements

Table 2 lists system requirements for the server.

Table 2. System Requirements

Item	Requirements
Cisco UCS Manager (optional)	Release 3.2(1) or later
Cisco IMC	Release 3.1(1) or later

Ordering Information

For information about installing or upgrading your server, see the [Cisco UCS C240 M5 Rack Server hardware installation guide](#).

For ordering information, see:

- [Cisco UCS C240 M5 SFF rack server specifications sheet](#)
- [Cisco UCS C240 M5 LFF rack server specifications sheet](#)

Warranty Information

Cisco UCS C240 M5 Rack Servers have a 3-year Next-Business-Day (NBD) hardware warranty and 90-day software warranty.

Augmenting the Cisco UCS warranty, Cisco Smart Net Total Care™ and Cisco Solution Support services are part of Cisco's technical services portfolio. Cisco Smart Net Total Care combines Cisco's industry-leading and award-winning foundational technical services with an extra level of actionable business intelligence that is delivered to you through the smart capabilities in the Cisco Smart Net Total Care portal. For more information, please refer to <https://www.cisco.com/c/en/us/support/services/smart-net-total-care/index.html>.

Solution Support includes both Cisco product support and solution-level support, resolving complex issues in multivendor environments on average 43 percent more quickly than with product support alone. Solution Support is a critical element in data center administration, helping rapidly resolve any issue encountered while maintaining performance, reliability, and return on investment.

This service centralizes support across your multivendor Cisco environment for both our products and solution partner products you've deployed in your ecosystem. Whether there is an issue with a Cisco or solution partner product, just call us. Our experts are the primary point of contact and own the case from first call to resolution. For more information, please refer to <https://www.cisco.com/c/en/us/services/technical/solution-support.html>.

Takeback and Recycle Program

<https://www.cisco.com/c/en/us/about/product-innovation-stewardship/product-recycling/takeback-recycle-program.html>

Cisco and Partner Services

Cisco and our industry-leading partners deliver services that accelerate your transition to a Cisco UCS C-Series Rack Servers solution. Cisco Unified Computing Services can help you create an agile infrastructure, accelerate time to value, reduce costs and risks, and maintain availability during deployment and migration. After deployment, our services can help you improve performance, availability, and resiliency as your business needs evolve and help you further mitigate risk. For more information, visit <https://www.cisco.com/go/unifiedcomputingservices>.

Cisco Capital

Flexible Payment Solutions to Help You Achieve Your Objectives

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. [Learn more.](#)

For More Information

For more information about Cisco UCS servers, refer to <https://www.cisco.com/go/ucs>.

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VMWARE vSPHERE

Efficient and Secure Platform for your Hybrid Cloud

AT A GLANCE

VMware vSphere®, the industry-leading virtualization and cloud platform, is the efficient and secure platform for hybrid clouds, accelerating digital transformation by delivering simple and efficient management at scale, comprehensive built-in security, a universal application platform, and seamless hybrid cloud experience. The result is a scalable, secure infrastructure that provides enhanced application performance and can be the foundation of any cloud.

KEY BENEFITS

- Run any app, on any cloud
- Turbo charge application performance
- Seamless hybrid cloud experience
- Efficient management at scale
- Comprehensive built-in security
- 6x improvement in application performance with vSphere Persistent Memory
- vSphere 6.7 is 2x faster than vSphere 6.5 in terms of vCenter Operations per second
- vSphere 6.7 has 3x faster DRS related operations than vSphere 6.5
- 3x reduced memory usage with vCenter Server Appliance 6.7

About vSphere

VMware vSphere, the industry leading virtualization and cloud platform, is the efficient and secure platform for your hybrid clouds. It provides a powerful, flexible, and secure foundation for business agility that accelerates your digital transformation to hybrid cloud and success in the digital economy. vSphere supports both existing and next-gen workloads through simple and efficient management at scale, to elevate the customer experience to an entirely new level; comprehensive built-in security that starts at the core, via an operationally simple policy-driven model; a universal application platform supporting new workloads and leveraging hardware innovations for enhanced performance; and a seamless hybrid cloud experience with easy visibility, migration and management of workloads between on-premises and public cloud. You can now run, manage, connect, and secure your applications in a common operating environment, across your hybrid cloud.

VMware vSphere Platinum is a new edition of vSphere, that secures applications, infrastructure, data, and access with the combined capabilities of core VMware vSphere and VMware AppDefense™. It enables a simple and powerful way to maintain existing workflows, while supporting collaboration amongst vSphere Admins, and security, compliance and application teams; making for less disruptive response and remediation in case of a security incident. vSphere Platinum delivers a purpose-built solution that secures infrastructure and applications by leveraging the hypervisor, and the power of machine learning, in a way that is built-in, operationally simple, and with minimal overhead or impact on performance.

What's New in Version 6.7?

- **Scale Enhancements** – New configuration maximums to support even the largest app environments
- **VMware vCenter Server® Appliance™ Linked Mode** – Support linked mode for vCenter Server Appliance with embedded Platform Services Controller, link up to 15 vCenters with no load balancers needed
- **VMware vCenter Server® Converge Tool** – Migrate topology from vCenter Server Appliance with External PSC into vCenter Server Appliance with Embedded PSC with ease
- **VMware vCenter Server® Appliance Back Up Scheduler** – Schedule vCenter Server Appliance backups; Full REST APIs for Backup and Restore
- **Single Reboot** – Dramatically reduce upgrade times by skipping a host reset
- **vSphere Quick Boot** – Reduce patching and upgrade times by rebooting the ESXi™ hypervisor without rebooting the physical host, skipping time-consuming hardware initialization
- **Support for 4K Native Storage** – Enhanced performance at scale to better serve large infrastructures

- **Fully Featured HTML 5 based vSphere Client** – Added functionality and easy management of connected components
- **Security-at-Scale** – Policy-driven security that makes securing infrastructure operationally simple
- **Support for Trusted Platform Module (TPM) 2.0 and virtual TPM** – Enhanced security to protect the hypervisor and guest operating system against unauthorized access
- **Cross-vCenter Encrypted vMotion** – Encrypted vMotion capability across different vCenter instances and versions
- **Support for Microsoft's Virtualization Based Security (VBS)** – Run Windows VMs performant and securely on vSphere
- **VMware AppDefense** – Protect the integrity of applications running on vSphere to create better visibility, application control, and threat response
- **NVIDIA GRID vGPU Enhancements** – Support for suspend and resume capabilities for vGPUs, to improve host lifecycle management. Support for VMware vMotion® and snapshot capabilities allows migration of vGPU powered VMs to another host during maintenance windows, reducing end-user disruption
- **vSphere Persistent Memory** – Support for persistent memory, exposing it as block storage or as memory, to enhance performance for new as well as existing apps
- **VMware vCenter Server® Appliance Hybrid Linked Mode** – Unified visibility and manageability across an on-premises vSphere environment running on one version and a vSphere-based public cloud environment, such as VMware Cloud™ on AWS, running on a different version of vSphere
- **Per-VM Enhanced vMotion Compatibility (EVC)** – Seamless migration of workloads between on premises and the cloud
- **Cross-vCenter Mixed Version Provisioning** – Simplify provisioning across hybrid cloud environments that have different vCenter versions

EDITIONS	vSPHERE STANDARD	vSPHERE ENTERPRISE PLUS	vSPHERE PLATINUM
Use Cases	Consolidate data center hardware and enable business continuity through server virtualization, VM-aware storage and live migration capabilities. Share data center resources across the boundaries of clusters. Get stronger virtualization security with enhanced endpoint protection.	Enhance application performance and availability to boost your business productivity with vSphere. Take control of resource management. Load balance workloads and prioritize access to resources to ensure top performance for your most important applications. Rapidly provision and deploy workloads in your virtual environment and move an entire running virtual machine from one physical server to another with no downtime.	Secure applications, infrastructure, data, and access with the combined capabilities of core vSphere and VMware AppDefense™. Deliver enhanced visibility and protection with simple, lightweight and scalable security with no agents to manage, and minimal overhead.
Product Components			
License Entitlement	Per 1 CPU	Per 1 CPU	Per 1 CPU
vSphere Edition	Standard	Enterprise Plus	Platinum*
VMware AppDefense**			•
Product Features			
Server Virtualization	•	•	•
VM-Aware Storage	•	•	•
API and Policy Driven Storage Capabilities	•	•	•
Support for 4K Native Storage	•	•	•
vSphere Persistent Memory	•	•	•
Single Reboot	•	•	•

*Includes VMware AppDefense Plug-in for Platinum

**This is AppDefense for Platinum, the SaaS component of vSphere Platinum

EDITIONS	VSPHERE STANDARD	VSPHERE ENTERPRISE PLUS	VSPHERE PLATINUM
vSphere Quick Boot	•	•	•
Live Migration of Workloads	Cross Cloud	Cross - vCenter / Long Distance / Cross Cloud	Cross - vCenter / Long Distance / Cross Cloud
Protect VM and Data	•	•	•
Support for TPM 2.0	•	•	•
Virtual TPM 2.0	•	•	•
FIPS 140-2 Compliance	•	•	•
Support for MSFT VBS	•	•	•
Ensure System Uptime	•	•	•
Share Data Center Resources	•	•	•
Endpoint Security	•	•	•
Fault Tolerance	2-vCPU	8-vCPU	8-vCPU
vCenter Hybrid Linked Mode	•	•	•
Per-VM Enhanced vMotion Compatibility	•	•	•
Instant Clone	•	•	•
Proactive High Availability		•	•
VM-level Encryption		•	•
vSphere Integrated Containers™		•	•
Centralized Network Management		•	•
Load Balancing		•	•
Prioritize Resources to Virtual Machines		•	•
Rapid Deployment and Provisioning		•	•

EDITIONS	VSPHERE STANDARD	VSPHERE ENTERPRISE PLUS	VSPHERE PLATINUM
Accelerated Graphics for Virtual Machines		•	•
Support for Suspend, Resume, vMotion and Snapshot for NVIDIA vGPUs		•	•
Automated Discovery of Application Assets, Intent, and Communication			•
Contextual Intelligence of Application State			•
Orchestrated or Automated Responses to Security Threats			•
Integration with third-party Security Operations tools			•

FOR MORE INFORMATION

For information or to purchase VMware products, call 877-4VMWARE (outside North America, +1-650-427-5000), visit www.vmware.com or search online for an authorized reseller. For detailed product specifications and system requirements, refer to [vSphere documentation](#).



Veeam Backup & Replication

#1 Cloud Data Management

Veeam® Backup & Replication™ delivers Availability for **ALL** your virtual, physical and cloud-based workloads. Through a single management console, you can manage fast, flexible and reliable backup, recovery and replication of all your applications and data to eliminate legacy backup solutions forever.

Veeam Backup & Replication features

Backup

Veeam provides fast and reliable backup for ALL workloads — virtual, physical and cloud.

- **Veeam Cloud Tier:**^{NEW} Provides unlimited capacity for long-term data retention with native, cost effective object storage integrations which allow organizations to scale both on-premises and in the cloud.
- **Veeam Plug-ins for SAP HANA**^{NEW} and **Oracle RMAN:**^{NEW} Improve scalability and operational efficiencies while managing enterprise environments.
- **Built-in management for Veeam Agent for Microsoft Windows and Veeam Agent for Linux:** Manage agent-based backup capabilities directly inside the Veeam Backup & Replication console, including a single pane of glass for Availability of virtual, physical and cloud workloads, centralized backup agent deployment and Windows Server Failover Cluster support.
- **Image-level VM backups:** Create application-consistent backups with advanced application-aware processing.
- **Backup from Storage Snapshots:** Generate ultra-fast backups with low RPOs from storage snapshots from an evergrowing list of the [world's leading storage providers](#).
- **Scale-out Backup Repository™:**^{ENHANCED} Simplify the management of your backups through the creation of a single virtual pool of backup storage, including support for on-premises and cloud-based object storage.
- **Veeam Cloud Connect:** Get backups off site without the cost and complexity of building and maintaining an off-site infrastructure; fast and secure cloud backup to a service provider.
- **SureBackup®:** Automatically test and verify every backup and every virtual machine (VM) for recoverability.
- **Built-in WAN acceleration:** Get backups off site up to 50x faster and save bandwidth.
- **Direct Storage Access:** Perform vSphere backups faster and with reduced impact by backing up via Direct SAN Access and Direct NFS Access.
- **Native tape support:**^{ENHANCED} Leverage multiple tape support options including direct restore to tape, parallel processing, global media pools, native Grandfather-Father-Son (GFS) retention and backing up and restoring entire volumes to NDMP v4 and writing to media pools in WORM format.

"If you want worry-free Availability, choose Veeam. Of all the solutions available, Veeam is the Ferrari sitting on the showroom floor."

John Burks,
Director of Information
Technology,
BLR

"Veeam helps us deliver on our mission to create authentic experiences that rock. Even during our busiest months, when we host several conventions and hundreds of thousands of people, Veeam gives us complete confidence that our IT systems are able to support guest experiences 24.7.365."

Kevin Ragsdale,
Director of IT
Hard Rock Hotel & Casino

"We had two options: we could spend more than half the work week managing and worrying about VM backup and replication, or we could put Veeam in place and forget about it."

Brooks Barnes,
Systems Administrator,
Great Southern Wood
Preserving, Inc.

"Veeam helps us create an academic environment where faculty and students can make cutting-edge scientific breakthroughs. Veeam is the ace in our pocket for intelligent data management."

John Nicpon,
Manager of Systems Engineering
UNLV

"Veeam Backup & Replication is way past WOW! This is what the backup world needs. Veeam has already given me hours of my life back each week."

Larry Walker,
Vice President and
Data Processing Officer,
Chelsea Groton Bank

Recovery

Veeam delivers lightning-fast, reliable restore for individual files, entire VMs and application items — ensuring you have confidence in virtually every recovery scenario.

- **Instant VM Recovery®:** Recover a failed VM in less than two minutes
- **Instant File-Level Recovery:** Recover guest OS files and folders on the fly
- **Veeam Cloud Mobility:**^{NEW} Get easy portability and recovery of ANY on-premises or cloud-based workloads to AWS, Azure and Azure Stack, with just 2 steps.
- **Recover with added confidence:**^{NEW} Restore backups with confidence by adding security, antivirus and intrusion prevention capabilities with **Veeam DataLabs™ Secure Restore**^{NEW} and additional GDPR and compliance protection with **Veeam DataLabs Staged Restore**^{NEW}
- **Veeam Explorer™ for Microsoft Active Directory:** Instantly recover individual AD objects and entire containers, easily recover user accounts and passwords, enable restores of Group Policy Objects (GPOs), Active Directory- integrated DNS records and more
- **Veeam Explorer for Microsoft Exchange:** Instant visibility and granular recovery of individual Exchange items, including hard-deleted items, detailed export reports for eDiscovery and more
- **Veeam Explorer for Microsoft SharePoint:** Instant visibility into SharePoint backups; easily find and recover specific SharePoint items as well as individual sites
- **Veeam Explorer for Microsoft SQL Server:** Fast transaction and table-level recovery of SQL databases allowing for precise point-in-time restore
- **Veeam Explorer for Oracle:** Transaction-level recovery of Oracle databases, including agentless transaction log backups, enabling precise point-in-time restore
- **Veeam Explorer for Storage Snapshots:** Recover single files and entire VMs from the storage snapshots of the [world's leading storage providers](#)
- **Role-Based Access Control (RBAC):**^{NEW} Establish internal self-service backup and restore for VMware vSphere

Replication

Veeam provides advanced, image-based VM replication and streamlined disaster recovery — ensuring the Availability of your mission-critical applications.

- **Image-based VM replication:** Replicate VMs on site for high-Availability or offsite for disaster recovery
- **Veeam Cloud Connect Replication:** Get replicas off site without the cost and complexity of building and maintaining a disaster recovery site; fast and secure cloud-based disaster recovery (DRaaS) through a service provider
- **SureReplica:** Automatically test and verify every VM replica for recoverability
- **Built-in WAN acceleration:** Get replicas off site up to 50x faster and save bandwidth
- **Failover and Failback:** Replica rollback and assisted failover and failback with little to no business interruption

Supported Environments

VMware infrastructure

Platforms

- vSphere 6.x
- vSphere 5.x

Hosts

- ESXi 6.x
- ESXi 5.x

Software

- vCenter Server 6.x (optional)
- vCenter Server 5.x (optional)
- vCloud Director 8.x and 9.x (optional)

Virtual Machines

- All OSs supported by VMware
- Any application
- Any file system

Microsoft infrastructure

Platforms

- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 R2
- Windows Server 2012
- Windows Server 2008 R2 SP1

Hosts

- Windows Server Hyper-V 2019
- Windows Server Hyper-V 2016
- Windows Server Hyper-V 2012 R2
- Windows Server Hyper-V 2012
- Windows Server Hyper-V 2008 R2 SP1
- Microsoft Hyper-V Server (free hypervisor)

Software

- Microsoft System Center Virtual Machine Manager 2016 or later (optional)
- Microsoft System Center Virtual Machine Manager 2012 R2 (optional)
- Microsoft System Center Virtual Machine Manager 2012 SP1 (optional)
- Microsoft System Center Virtual Machine Manager 2008 R2 SP1 (optional)

Virtual Machines

- All OSs supported by Microsoft Hyper-V
- Any application
- Any file system

Agent Management

Utilization of agent management functionality requires the installation of the redistributable package of Veeam Agent for Microsoft Windows v3 or later and/or Veeam Agent for Linux v3 or later with Veeam Backup & Replication.

Editions

Veeam Backup & Replication comes in three editions — Standard, Enterprise and Enterprise Plus — so you can choose the one that best meets your needs and budget.