City of Maricopa
Quote - New Production Server and Storage Solution
Maricopa County SAVE Contract# Serial 16076-RFP

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Hardware and Software

		Extended Price
Cisco UCS Blade Server	$	31,263.00
Nimble Storage Array	$	41,348.00
VMware Licenses	$	22,216.00
Veeam Licenses	$	12,424.00
EMC Data Domain	$	10,453.00
Professional Moving Services	$	4,647.50
Hardware and Software Total	**$**	**122,351.50**

Solution Maintenance & Support

		Extended Price
Hardware Maintenance	$	8,447.00
Software Maintenance	$	8,331.00
Maintenance & Support Total	**$**	**16,778.00**

TOTAL PROJECT - Project Total Cost is based on the combined purchase of all Hardware/Software, Professional Services and Solution Maintenance from Sentinel as detailed in the attached Bill of Materials. Unbundling or materially reducing any of these essential elements of the solution may result in modifications to the cost of the remaining elements.

		Extended Price
Hardware and Software	$	122,351.50
Solution Maintenance & Support	$	16,778.00
Professional Services	$	35,140.00
Project Total	**$**	**174,269.50**

Plus applicable tax, shipping & handling

Hardware and Software			
Description	Qty	Unit Price	Ext Price
Cisco B200 M4 Servers - each includes 2x 12-core CPUs and 128GB RAM (8x 16GB)			
UCS SPSelect B200M4 Adv5 w/2xE52650v4,8x16GB,VIC1340	4	$ -	$ -
(Not sold standalone)B200M4 Adv5 w/2xE52650v4,8x16GB,VIC1340	4	$ 5,372.00	$ 21,488.00
2.20 GHz E5-2650 v4/105W 12C/30MB Cache/DDR4 2400MHz	8	$ -	$ -
16GB DDR4-2400-MHz RDIMM/PC4-19200/single rank/x4/1.2v	32	$ -	$ -
32GB SD Card for UCS servers	4	$ 62.00	$ 248.00
Cisco UCS VIC 1340 modular LOM for blade servers	4	$ -	$ -
FlexStorage blanking panels w/o controller, w/o drive bays	8	$ -	$ -
Cisco M4 - v4 CPU asset tab ID label (Auto-Expand)	4	$ -	$ -
CPU Heat Sink for UCS B200 M4/B420 M4 (Front)	4	$ -	$ -
CPU Heat Sink for UCS B200 M4/B420 M4 (Rear)	4	$ -	$ -
Cisco UCS Mini Chassis			
UCS SP Select 5108 AC2 Chassis w/FI6324	1	$ 8,979.00	$ 8,979.00
Power Cord, 250Vac 16A, twist lock NEMA L6-20 plug, US	4	$ -	$ -
UCS 5108 Blade Chassis FW Package 3.1	1	$ -	$ -
Fan module for UCS 5108	8	$ -	$ -
2500W Platinum AC Hot Plug Power Supply - DV	4	$ -	$ -
UCS 5108 Packaging for chassis with half width blades.	1	$ -	$ -
Single phase AC power module for UCS 5108	1	$ -	$ -
Blade slot blanking panel for UCS 5108/single slot	8	$ -	$ -
Accessory kit for UCS 5108 Blade Server Chassis	1	$ -	$ -
UCS 6324 In-Chassis FI with 4 UP, 1x40G Exp Port, 16 10Gb	2	$ -	$ -
UCS Manager v3.1	2	$ -	$ -
10GBASE-CU SFP+ Cable 5 Meter	4	$ 82.00	$ 328.00
10GBASE-CU SFP+ Cable 3 Meter	4	$ 55.00	$ 220.00

Hardware and Software Sub-Total   **$31,263.00**

Hardware and Software			
Description	Qty	Unit Price	Ext Price

Nimble CS3000 Storage Array
C3KDUAL10GBE OPTICAL 1PR 84TB 2880GB | 1 | $ 41,348.00 | $ 41,348.00

Hardware and Software Sub-Total **$41,348.00**

Hardware and Software			
Description	Qty	Unit Price	Ext Price
VMware vSphere Enterprise Plus 6.x for 8x CPUs			
VPP L1 VSPHERE 6 ENT PLUS FOR 1 PROC	8	$ 2,777.00	$ 22,216.00

Hardware and Software Sub-Total	**$22,216.00**	

Hardware and Software			
Description	**Qty**	**Unit Price**	**Ext Price**
Veeam Backup and Replication Enterprise Plus			
BACKUP AND REPL ENT+ VMW NEW LICS PUB SEC INCL 1YR 5X12 MNT	8	$ 1,553.00	$ 12,424.00
Hardware and Software Sub-Total	**$12,424.00**		

Hardware and Software

Description	Qty	Unit Price	Ext Price
EMC Data Domain DD2200 Backup Appliance			
LICENSE BOOST DD2200=IA	1	$ 774.00	$ 774.00
LICENSE BASE DD OE DD2200-14=IA	1	$ 3,044.00	$ 3,044.00
OPTION	1	$ 2,524.00	$ 2,524.00
SYSTEM DD2200 NFS CIFS	1	$ -	$ -
SYSTEM DD2200-7X2TB SAS 14TB NFS CIFS	1	$ 4,111.00	$ 4,111.00
DOCS,DD OS DOC,A4	1	$ -	$ -
OPTION FIELD INSTALL KIT DD2200	1	$ -	$ -

Hardware and Software Sub-Total   **$10,453.00**

Equipment Movers			
Description	**Qty**	**Unit Price**	**Ext Price**
Equipment to be Moved			
Dell Storage Shelves	3		
HP Server Chassis	1		
HP Server Blades	6		
Fiber Channel Switches	2		
Network Switches	2		
Packing Material			
Roll Antistatic, large bubble, bubble wrap	1	$ 175.00	$ 175.00
Roll Antistatic stretch wrap	0.5	$ 105.00	$ 52.50
Valuation			
Valuation Coverage @ $250,000	1	$ 1,454.00	$ 1,454.00
Professional Services			
Moving Labor	1	$ 2,027.00	$ 2,027.00
Fuel Surcharge	1	$ 59.00	$ 59.00
Project Planning & Coordination	1	$ 400.00	$ 400.00
Project Management	1	$ 480.00	$ 480.00
Equipment Movers Sub-Total		**$4,647.50**	

Hardware Maintenance

Description	Qty	Special Notes	Unit	Ext. Price
Cisco Hardware Maintenance				
SNTC 24X7X4OS, (Not sold standalone)B200M4 Adv5 w/2xE52650v4	4	*12 Months Duration*	$ 324.00	$ 1,296.00
ONSITE 24X7X4 UCS SP Select 5108 AC2 Chassis w/FI6324, UCS C	1	*12 Months Duration*	$ 229.00	$ 229.00
SNTC-24X7X4OS UCS 6324 In-Chs FI w/4 UP 1x40G E-Port	2	*12 Months Duration*	$ 315.00	$ 630.00
Nimble Hardware Maintenance				
4HR PARTS DEL SW SUP & INFOSIGHT ADAPTIVE FLASH ARRAY	1	*12 Months Duration*	$ 5,839.00	$ 5,839.00
EMC Hardware Maintenance				
PREMIUM SYSTEM SUPPORT (DD)	1	*12 Months Duration*	$ 453.00	$ 453.00

Hardware Maintenance Sub-Total $8,447.00

Software Maintenance

Description	Qty	Special Notes	Unit	Ext. Price
VMware Software Maintenance				
PRODUCTION SUP VSPHERE 6 ENT+ 1 PROC 1YR	8	*12 Months Duration*	$ 869.00	$ 6,952.00
Veeam Software Maintenance				
1YR 24/7 UPLIFT VEEAM BACKUP AND REPL ENT PLUS FOR VMWARE	8	*12 Months Duration*	$ 113.00	$ 904.00
EMC Software Maintenance				
PREMIUM SOFTWARE SUPPORT (DD)	1	*12 Months Duration*	$ 335.00	$ 335.00
PREMIUM SOFTWARE SUPPORT (DD)	1	*12 Months Duration*	$ 140.00	$ 140.00

Software Maintenance Sub-Total $8,331.00

General Proposal Assumptions

Product Lead Times

Depending on the technologies quoted, orders may be direct or through distribution. Lead times should be expected to be 8 weeks but can exceed 8 weeks. Should expedited equipment requirements arise, there could be an additional charge to source through a warehousing distribution partner.

Site Readiness and Site Survey Requirement:

Every effort has been made to ensure that proper power cords and patch cables have been included to match your environment's infrastructure. The notes section of the Bill of Materials (BOM) explicitly states the quantity and type of cords quoted.

Three options are available to ensure the accuracy of the selected items; please initial next to which

Initials	
Option 1	Customer waives the opportunity to complete a site/closet checklist, has reviewed the BOM and agrees to quantity, type and length of the power and patch cables provided. [Financial obligation for labor and materials for changes identified post order will be the Customer's responsibility]
Option 2	Customer has provided a site/closet review checklist document and confirms the quantity, type and length of the power and patch cables quoted. [Financial obligation for labor and materials for changes identified post order will be the Customer's responsibility, unless Sentinel provided the incorrect part based on the provided checklist]
Option 3	Customer elects a "for charge" onsite survey of the facilities and closets to determine quantity, type and length of the power and patch cables required. In addition, Sentinel will assess each closet's cooling and UPS readiness for the proposed equipment being provided. [Financial obligation for labor and materials for changes identified post order will be Sentinel's full responsibility, unless changes to the site have taken place subsequent to the site assessment]

Optics (SFP, SFP+, GBIC, etc…)

Every effort was made in the pre-sales process through white board sessions, BOM reviews and diagrams to identify any and all optics required. **OPTICS AS QUOTED AND SOLD ASSUME A STAND ALONE SYSTEM UNLESS OTHERWISE NOTED.** Migration items and integration items to existing equipment, if not noted, are not included nor is time for the interconnection, planning or design of same. Should any question exist as to the total number, types and use of the optics, Sentinel can set up a design review and white board session prior to the order upon request.

It may be determined during the blueprint process that additional connections are required or recommended. These will require an additional purchase cost to the Customer. Sentinel makes a best effort to avoid any foreseeable additional purchases, but in most cases the final connectivity varies slightly either for a technical reason or due to a physical requirement and this is beyond the fixed price solution design.

Fiber

It is assumed that the Customer's existing fiber will support proposed transmission speeds (i.e. 1GB, 10GB, 40GB, etc.). Customer must ensure that the fiber optic cabling is within manufacturer tolerances for distance and loss in order to support the required transport speeds. In some cases specialized equipment such as attenuators and mode conditioning cables may be required to properly support these speeds. This equipment will be at the expense of the Customer.

Power, Racks and Cooling

Like the optics, Sentinel has made a best effort to match any power requirements and answer any requests of the Customer related to equipment specifications, power cables included or other physical requirements. Any adjustments to fit in racks, connect to specific power terminal types, or secure electrician services to run a new service are beyond the fixed bid project price. Sentinel will respond to any inquiry and provide product literature. Any sizing charts provided are done so as a convenience to the client and DO NOT represent a commitment by Sentinel that, as sold, the equipment is ready for the Customer site. Sentinel offers Technology Area Design (TAD) consulting services should the Customer prefer a more formal and accurate solution.

Patch Cables/Cable Lengths

In most cases the BOM includes any note(s) on cable lengths included. Without the design validation of a formal TAD engagement, only a best effort is made to match the site requirements. Any changes to the cord lengths, connectors or other site readiness items will be in addition to the solution once the order is placed with the manufacturer(s). Many of the vendors offer the ability to select the appropriate items prior to order, but will charge for any replacements needed after the order and this offer will be extended to the Customer through the Sentinel Project Change Request (PCR) process. Unless specified, Sentinel assumes the Customer will provide all patch cables needed and can provide the product literature on any devices upon request.

Project Changes Request

Sentinel assumes, unless noted here, that the Customer will patch in all equipment to the cabling plant within the facility. Sentinel can perform this connection service at an additional charge with an approved PCR.

Travel Requirements and Cost

Unless specified within the proposal, all travel expenses and time are not included. Travel time shall be invoiced at pre-negotiated rates and expenses plus per diem at actual costs.

Labor Union Requirements

Sentinel has **NOT** included any parameters for Union workers. Any requirement would require a subcontract arrangement to be determined up front and would increase the cost of deployment.

Permits & Access

Unless otherwise agreed, all permits, variances, access to facilities, roof access, building warranty concerns or other site specific information and procedures are the responsibility of the Customer. Sentinel can assist as needed, but will need to be informed of any requirements prior to the site survey to consider these within the validation process.

Remote Support

Sentinel's service estimate assumes remote access support through IP VPN or IP PPP connection. Without this access, additional services may be incurred for optimization and tuning required pre and post installation.

Backup & Recovery

Backup Storage Capacity

Sentinel has made a best effort to size the total backup & recovery solution in the pre-sales process. Vendor tools should be provided by Sentinel or the vendor upon request. Actual deployments will dictate the true storage available and many variables exist including but not limited to: RAID levels chosen, use of de-duplication, compression and/or thin provisioning, number of hot standby disk, etc... Raw capacity is guaranteed based on calculation of the total disk included (not considering the RAID level or hot standbys). Actual usable space will vary based on the decisions made during deployment.

Backup Performance

Sentinel has made a best effort to plan for backup performance. Backup performance depends greatly on throughput, amount of data, change rate and other factors. Provided the Customers detailed reports of all systems to be backed up for full and incremental backups a best effort can be made to predict the backup window based on the solution. In addition some products de-duplicate on the fly, de-duplicate as a scheduled process or do not de-duplicate at all. All of this and many other factors will determine backup performance. Backup systems that replicate over the WAN will fall under the same assumptions as the replication associated with the SAN environments noted above. Actual guaranteed performance should include a Customer provided or paid consulting engagement to calculate the connectivity requirements and performance needed for each backup appliance. In most cases the backup systems being replaced are far less efficient than the new replacements. Sentinel highly recommends planning this in depth, a formal engagement for the assessment and over provisioning within reason for all solutions.

Replication Bandwidth

Replication bandwidth requirements depend on the product, amount of data, change rate, compression effectiveness, de-duplication rates and many other factors including transport (for example VPN adds encryption overhead). Upon request Sentinel can provide details on information required or perform a consulting engagement (assessment) to determine the actual bandwidth required. Products offered will generally work with any amount of bandwidth allocated; however, the amount of data transported will vary based on the available network capacity.

Cisco Data Center – UCS & MDS

Cisco UCS

Cisco UCS sizing has been estimated to the best of Sentinel's ability. Without a complete data center assessment of the current virtual and non-virtual servers as well as planned projections of requirements, the UCS system has been included as a best effort only and changes are subject to financial investment through the project change process.

Unified Fabric

Sentinel has made a best effort to confirm optics and cables required. Patch cables required between the FlexPod and the networks are the responsibility of the Customer.