

Shakopee Datacenter Project



Server / Storage Replacement Hybrid Design

Prepared by:
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LOGIS

Goals of Project:

Design and implement a new server/storage solution with the following goals:

- Replace existing VMWare ESXI servers
- Replace existing storage
- Increase speed of storage
- Maintain the existing backup and recovery plan
- Maintain the existing disaster recovery plan
- Purchase a 5-year maintenance contract for new hardware
- Design solution to allow for 5 years of growth
- VMWare and Microsoft licensing to remain the same
- Reduce Shakopee IT labor for maintaining hardware

Summary of Proposed Design:

- Replace the existing Shakopee hosted VMWare ESXI servers and SAN's with a cloud/on-premise hybrid solution.
 - LOGIS Managed Services – Hosted ESXI Servers will be used to run the Shakopee critical server/storage workloads, which includes 28 virtual machines and 16TB of storage. This solution utilizes the enterprise infrastructure that is installed in the LOGIS Data Centers and is a yearly lease cost model.
 - An on-premise mid-class redundant VMWare ESXI server and storage solution will be installed at the Shakopee Data Centers. Less critical and high-capacity workloads will run on this new equipment, which includes 5 VM's and 30TB of storage. This solution meets the workload requirements, but does not have as much redundancy, speed, or recoverability as the LOGIS Hosted ESXI environment. This is a one-time cost model.

Pricing Summary:

All components will be purchased with “Omni Partners” or “State of MN” or other approved Governmental contracts.

Summary of the 3 pricing components to this solution:

1. LOGIS Managed Services - Hosted ESXI Servers
 - a. \$60,888.10 (yearly estimate)
2. On-premise server/storage hardware
 - a. \$61,336.04 (one time cost)
3. Labor to accomplish both projects
 - a. \$52,780 (one time cost)

Pricing Component 1 Details:

LOGIS Managed Services - Hosted ESXI Servers (yearly estimate)

 <i>Benefits through membership, sharing, and collaboration</i>		Proposal Date: 5/24/2024 Member: City of Shakopee Prepared By: Brent Rebischke	
Quote for LOGIS Managed Services - Hosted ESXI Servers			
Pricing Summary			
Total yearly cost for LOGIS Managed Services - Hosted ESXI		\$60,888.10	
Total yearly cost for LOGIS Managed Services - Hosted Backup		no changes	
LOGIS Managed Services - Hosted ESXI Servers - Yearly Estimate			
Quantity	Description	Unit Price	Per Server
4	ESXI Server (dual-socket) (12+ core per socket)	\$4,000.00	\$16,000.00
1536	RAM for ESXI Server - Total for all servers	\$6.85	\$10,521.60
16365	Production storage in Gb (replicated)	\$2.10	\$34,366.50
0	Capacity storage in Gb (replicated)	\$0.40	\$0.00
	Total yearly cost for server hosting		\$60,888.10

Pricing Component 2 Details:

On-premise server/storage hardware (one time cost)

Shakopee Data Center - On Premise - Server/Storage Replacement		
 <i>Benefits through membership, sharing, and collaboration</i> Date: May 24, 2024 Member: City of Shakopee Prepared By: Brent Rebischke		
SAN / Storage Purchase:		Pricing
Site 1: Synology FlashStation FS2500 with 13x7TB drives (75TB usable)		\$ 21,611.91
Site 2: Synology FlashStation FS2500 with 13x7TB drives (75TB usable)		\$ 21,611.91
(5 years hardware/software maintenance costs are included)		
Server Purchase:		
Site 1: 1x SuperMicro VMWare ESXI Servers - 256GB RAM each		\$ 8,443.19
Site 2: 1x SuperMicro VMWare ESXI Servers - 256GB RAM each		\$ 8,443.19
(5 years hardware/software maintenance costs are included)		
Infrastructure Replacement Project:		
Assumed that available 10/25GB SPF+ ports are available		
Cables - (8x - AOC 5m)		\$ 1,225.84
Software Purchase-Maintenance (VMWare)		
Shakopee to maintain 4 vSphere Standard licenses (cost not included in this project)		
Software Purchase-Maintenance (Microsoft)		
Shakopee to maintain x cores of Microsoft Datacenter licensing (costs not included in this project)		
Backup and Recovery Solution:		
LOGIS hosted Commvault backup solution - Costs remain the same		
Total Cost		\$ 61,336.04

Pricing Component 3 Details:

Labor to accomplish both components of the hybrid solution. Architecture is a fixed cost, but all other line items are billed as time and material. They City of Shakopee has the ability to do many of these tasks in-house, which would reduce the labor charge.

Benefits through membership, sharing, and collaboration

Proposal

Date: 5/24/2024
Member: City of Shakopee
Prepared By: Brent Rebeschke

Labor Estimate - LOGIS Managed Services - Hosted ESXI Servers

Quantity	Description	Unit Price	Per Server
Labor: Architecture / Planning			
100	Solutions Architect: Facilitate assessments/planning/order hardware/pricing/documentation - fixed cost	\$145.00	\$14,500.00
16	Infrastructure discovery	\$145.00	\$2,320.00
16	Infrastructure implementation plan		
16	Systems discovery	\$145.00	\$2,320.00
16	Systems implementation plan	\$145.00	\$2,320.00
Labor: Migration			
16	Systems: Build LOGIS server/storage environment for Member (4 ESXI servers with associated LUN's)	\$145.00	\$2,320.00
16	Systems: Configure iSCSI w/AN presentations to onprem ESXI	\$145.00	\$2,320.00
24	Systems: Migrate VM's and Storage	\$145.00	\$3,480.00
40	Infrastructure: Build VLAN's/L2 links/routes/switches/forklifts/teardown	\$145.00	\$5,800.00
Labor: Misc			
16	Labor: Tear down existing on-prem environment - Member to dispose of equipment	\$145.00	\$2,320.00
16	Labor: Reconfiguration of on-prem ESXI/SAN	\$145.00	\$2,320.00
40	Labor: Project Management	\$145.00	\$5,800.00
Labor: Specific to Project			
TBD	Any additional work to accomplish a POC if necessary	N/A	N/A
TBD	Assist with rebuild of any virtual servers	N/A	N/A
TBD	Assist with application upgrades	N/A	N/A

Total one-time cost for migration - LOGIS Managed Services - Hosted ESXI Servers

\$45,820.00

Labor Estimate - On-premise server/storage hardware

Quantity	Description	Unit Price	Per Server
Labor: Architecture / Planning			
0	Solutions Architect: Facilitate assessments/planning/order hardware/pricing/documentation/oversight Included as part of the larger project	\$145.00	\$0.00
Labor: Implement new Synology Storage Arrays			
12	Systems: Rack, Install, configure	\$145.00	\$1,740.00
4	Systems: Migrate to new storage with vStorage	\$145.00	\$580.00
Labor: VMware ESXI Systems			
16	Systems: Implement new ESXI Servers	\$145.00	\$2,320.00
4	Systems: Test replications, failover, fallback, HA, ETC	\$145.00	\$580.00
4	Systems: Migrate compute	\$145.00	\$580.00
Labor: Infrastructure			
8	Infrastructure: ACL/Port changes as needed Infrastructure: Install of switch/cards/transceivers will be extra	\$145.00	\$1,160.00
Labor: Misc			
0	Labor: Project Management (included as part of the larger project)	\$145.00	\$0.00
Labor: Specific to Project			
TBD	Any additional work to accomplish a POC if necessary	N/A	N/A
TBD	Assist with rebuild of any virtual servers	N/A	N/A
TBD	Assist with application upgrades	N/A	N/A

Total one-time labor cost - On-premise server/storage hardware

\$6,960.00

Total one-time labor cost - Combined

\$52,780.00

Value Proposition and Considerations:

LOGIS Managed Services – Hosted ESXI Servers

The hybrid computing model is common in the industry and has become the most common solution in the LOGIS Consortium for these reasons defined below:

Business Continuity:

- Disaster recovery is exponentially simplified.
- LOGIS performs planning and testing invisible to the member.
- LOGIS has 3 datacenters with automatic failover.
- Solutions meet or exceed requirements from CJIS/PCI/HIPPA.
- Data corruption and security issues are resolved exponentially faster with all LOGIS hosted backups residing on SSD for recovery.
- Member employees can work from anywhere in the world with adequate Internet access.
- If Member buildings are non-functioning due to electric issue/civil unrest/natural disaster/etc, employees can continue to work from:
 - Employee's home
 - Other City buildings
 - Neighboring City buildings
 - LOGIS shared workspace

Security:

- IPS system – LOGIS has a built-in Intrusion Prevention System in place for all traffic in and out of LOGIS.
- This is typically cost prohibitive for members to do alone.
- DMZ networks are managed separately and completely isolated at LOGIS, which promotes more safety.
- This is typically cost prohibitive for members to do alone due to hardware costs.
- Continuous logging / auditing / and response plans.

Cost Savings:

- Reduced labor to administer the environment.
- Reduced costs for hardware maintenance contracts.
- Reduced costs for software licensing/maintenance contracts, specifically vCenter/SAN/UCS servers/VEEAM.
- Member on-premise Infrastructure can be sized smaller, e.g.
- Less need for SFP+ ports in core switches.
- No need for a Fiber Channel switch infrastructure.
- Member will not need to forecast and over-purchase resources. LOGIS solutions are elastic, so you only pay for what you need, when you need it.
- Member will spend less on electricity / switch equipment / datacenter racks / UPS.

Labor Considerations:

- Member will not need to train staff in very technical subjects of VMWare vCenter/ESXI/SAN/UCS servers/VEEAM.
- Member will not need to perform complex/lengthily upgrades on products such as, VMWare vCenter, vSphere, SAN, UCS, and VEEAM.
- Member will not need to monitor hardware performance.

Performance:

- LOGIS servers are running on industry best/fastest platforms.
- LOGIS storage is running on industry best/fastest platforms.
- Multiple storage platforms are available for the Member's different needs, such as production and/or surveillance. LOGIS has deployments of each tier of storage and each are at scale. This brings performance up and costs down.
- Performance metrics are monitored daily by our Engineering teams. The Member hosted environments are running on the same platforms as all of our 911/ERP/UB systems so we ensure performance meets/exceeds all expectations.