Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: LEIN – Core Upgrade   **Project ID: D49183TU**

Leadership Group: CLEMIS	

Department: Information Technology	**Division: CLEMIS**

Project Sponsor: Jeffrey Nesmith	**Date Requested: 10/1/18**	**PM Customer No. 183**

Request Type:	Planned System Maintenance or Upgrade

IT Team Name: FRMS/Biometrics	**IT Team No:** 4

Project Manager/Leader: Stephen Beck

Account Number: 95430	**Account Description:** CLMS Maintenance	**Customer Name:** CLEMIS
Grant Funded? No	**Mandate?** No **Mandate Source:**	

Project Goal

To upgrade the multi bridge infrastructure so that the LEIN software can accommodate an increase in its user base.

Business Objective

To improve the existing performance of the multi bridge infrastructure which the LEIN software is run on.

Major Deliverables

1. Build new infrastructure.

2. Deploy software on new infrastructure.

3. Migrate users to the new system.

Approach

A. Build new two 2016 VM's.

B. Manually balance agency load between the two new VM's.

C. Copy the configuration files to new VM's.

D. Redirect the IP the new VM's.

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E. Add new links to the CLEMIS sites.

F. Remove Talon from Start Menu.

G. Determine roll out strategy.

Research & Analysis

Gartner Research Recommendation

N/A

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users   7,500 total users.= (Desktop + MDC's)

Divisions   Public Safety agencies

Leadership Groups   CLEMIS

Risk

Business Environment

Low impact

Technical Environment

Low impact

Assumptions

Staffing   IT Staffing: resources will be available for the hours indicated per the attached

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project plan.

Facilities

- Nothing identified at this time.

Technical

- CLEMIS IT resources must have LEIN knowledge and expertise.

Funding

- CLEMIS Funded

Other

- Nothing identified at this time.

Priority   N/A - Planned Maintenance & Upgrade.

Constraints

- Someone will have to physically touch each of the 1,963 mobile devices + desktops located at agency stations to update commonly used desktop icons. There are only two CLEMIS resources who currently are approved to upgrade & support law enforcement devices.

Exclusions

- The CLEMIS department will not provide in car laptop and/or non-secure patrol car devices to the law enforcement agencies.

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PROJECT PHASE AUTHORIZATION

Phase(s):		
Total Estimated Application Services	**Hours:**	
Total Estimated Technical Systems	**Hours: 45**	$7,425
Total Estimated CLEMIS	**Hours: 601**	$99,165
Total Estimated Internal Services	**Hours:**	
IT Application Services Division Manager Approval:		**Date:**
IT Technical Systems Division Manager Approval:		**Date:**
IT CLEMIS Division Manager Approval:		**Date:**
IT Internal Services Division Manager Approval:		**Date:**
IT Management Approval:		
Approved: Yes No		Date:
Reason:		
Project Sponsor Approval:		
Title:		Date:

PROJECT SUMMARY

Authorized Development (see above)	**Hours:**	
Preliminary Estimated Development for Future Phases	**Hours:**	
Grand Total Estimated Development	**Hours:** 646	**Cost: $106,590**

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PROJECT COMPLETION AUTHORIZATION

Customer Acceptance of Product:	
Title:	Date:
Project Office Review:	Date:

	Type	ID	Task Name	Estimated Hours	Estimate Notes
			LEIN – Core Upgrade - Size Estimate (+/- 10% to 50%) ✕		
1	Task	000000	LEIN Upgrade/Maint		
2	Phase	000100	⊟ Project Management	163	
3	Phase	100000	⊟ Development	40	
4	Phase	100200-0	⊟ Configuration	284	
5	Phase	100500-0	⊟ Pre Production Activities	121	
6	Phase	109990	⊟ Post Implementation Support	38	
7					
1				646	

Oakland County -- LEIN - Core Upgrade

Return on Investment Analysis

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Benefits/Savings:							
Tangible Benefits Subtotal:	0	0	0	0	0	0	0
Cost Avoidance Subtotal:	0	0	0	0	0	0	0
Costs:							
Development Services Subtotal:	106,590	0	0	0	0	0	106,590
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	0	0	0	0	0	0	0
Infrastructure Subtotal	0	0	0	0	0	0	0
Training Subtotal:	0	0	0	0	0	0	0
Other Subtotal:	0	0	0	0	0	0	0
Annual Statistics:							
Annual Total Savings	0	0	0	0	0	0	0
Annual Total Costs	106,590	0	0	0	0	0	106,590
Annual Return on Investment	(106,590)						(106,590)
Annual Costs/Savings Ratio	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Project Cumulative Statistics:							
Cumulative Total Savings	0	0	0	0	0	0	0
Cumulative Total Costs	106,590	106,590	106,590	106,590	106,590	106,590	106,590
Cumulative Return on Investment	(106,590)	(106,590)	(106,590)	(106,590)	(106,590)	(106,590)	(106,590)
Cumulative Cost/Savings Ratio	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Year Positive Payback Achieved							NO PAYBACK
State or Federal Mandate?							
Signatures:							
Benefits Reviewed By Project Sponsor				Date:			
Costs (including IT Resources) Reviewed By Information Technology Project Manager				Date:			

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Return on Investment Analysis

Savings Detail

Benefit/Savings Description	Project Savings Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Savings	Annual Multiplier
Our vendor software has a maximum ceiling of 1,000 continuous logins. This project will increase our current maximum continuous login threshold, increase system performance and provide capacity for future growth.	Intangible Benefit	CLEMIS	ANN	1	0	0	0.000
						0	

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Return on Investment Analysis

Savings Detail

Benefit/Savings Description	Project Savings Category	Affects Project ROI?						Potential Savings Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3	Y4	Y5	Y6
Our vendor software has a maximum ceiling of 1,000 continuous logins. This project will increase our current maximum continuous login threshold, increase system performance and provide capacity for future growth.	Intangible Benefit	x	x	x	x	x	x	0.00	0.00	0.00	0.00	0.00	0.00

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Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Tangible Benefit:							
Tangible Benefits Subtotal:							
Cost Avoidance:							
Cost Avoidance Subtotal:							
Intangible Benefit:							
Our vendor software has a maximum ceiling of 1,000 continuous logins. This project will increase our current maximum continuous login threshold, increase system performance and provide capacity for future growth.	*0*	*0*	*0*	*0*	*0*	*0*	
Savings Total:							

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Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI? Y1	Y2	Y3	Y4	Y5	Y6	Potential Cost Y1	Y2	Y3
IT Hours - New Development	Development Svcs				147	0										
IT Hours - System Maintenance	Development Svcs				147	0										
IT Hours - Customer Support	Development Svcs				147	0										
IT Hours - Planned Maintenance	Development Svcs			646	165	106,590		x						106,590.00		
User Hours - New Development	Development Svcs					0										
User Hours - PTNE/OT	Development Svcs					0										
Contractor Professional Services	Development Svcs					0										
PC System - Acquisition	Hardware				687	0										
PC System - Maintenance	Hardware				2,720	0										
Notebook - Acquisition	Hardware				1,115	0										
Notebook - Maintenance	Hardware				2,800	0										
Tablet Notebook - Acquisition	Hardware				1,421	0										
Tablet Notebook - Maintenance	Hardware				2,592	0										
Laserprinter - Acquisition	Hardware				1,432	0										
Laserprinter - Maintenance	Hardware				1,304	0										
PC Maintenance User Owned	Hardware				2,720	0										
Printer Maintenance User Owned	Hardware				1,264	0										
File Space (100GB)	Hardware		ANN		23	0										
Package Software - Acquisition	Software					0										
Package Software - Maintenance	Software					0										
Business Objects Access	Software					0										
Term Emulation SFTW-Acquisition	Software					0										
Term Emulation SFTW-Maintenance	Software					0										
Server - Acquisition/Upgrade	Infrastructure				8,000	0										
Server - Maintenance	Infrastructure				360	0										
Server Sftwre - Acquisition/Upgrade	Infrastructure				335	0										
Server Sftwre - Maintenance	Infrastructure					0										
Server Rack Mount	Infrastructure				400	0										
Oracle Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure				21,372	0										
Oracle Enterprise Per Processor - Year 2 and Beyond	Infrastructure				3,432	0										
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure				24,533	0										
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure				20,759	0										

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Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?						Potential Cos		
								Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure				16,985	0										
SQL Server Enterprise - Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure				4,218	0										
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure				6,398	0										
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure				5,414	0										
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure				4,429	0										
SQL Server - Standard Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure				1,100	0										
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				3,506	0										
Websphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure				701	0										
Websphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				13,180	0										
Websphere ND Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure				2,635	0										
SSL Certificate	Infrastructure				845	0										
Internet Access	Infrastructure				180	0										
Imperva Web Application Firewall (External Web Applications Only)	Infrastructure		ANN		500	0										
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure		ANN		415	0										

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Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI? Y1	Y2	Y3	Y4	Y5	Y6	Potential Cost Y1	Y2	Y3
Database (5 GB) on Consolidated SQL Instance Server	Infrastructure		ANN		930	0										
Database Instance (125 GB DB) on Consolidated SQL Server	Infrastructure		ANN		2,395	0										
Database SQL Maint Server	Infrastructure		ANN		834	0										
Database SQL Server Physical	Infrastructure		ANN		19,158	0										
DB Maintenance (Annual Cycle $610)	Infrastructure		ANN		610	0										
DB Maintenance (Semi-Annual Cycle $1220)	Infrastructure		ANN		1,220	0										
DB Maintenance (Semi-Annual Cycle $2440)	Infrastructure		ANN		2,440	0										
Dedicated Virtual Server	Infrastructure		ANN		4,150	0										
DB Instance Setup	Infrastructure				976	0										
DBA MS SQL Database Creation on Exisitng Instance	Infrastructure				366	0										
Extra Small - 2 Core 8GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $601 On Premise Physical Server = N/A	Infrastructure		ANN			0										
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $951 On Premise Physical Server = $9,288	Infrastructure		ANN			0										
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $1,702 On Premise Physical Server = $9,751	Infrastructure		ANN			0										
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $3,167 On Premise Physical Server = $10,446	Infrastructure		ANN			0										
Extra Large - 40 Core 160GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $7,564 On Premise Physical Server = $12,906	Infrastructure		ANN			0										

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Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Cost Extensions		
		Y4	Y5	Y6
IT Hours - New Development	Development Svcs			
IT Hours - System Maintenance	Development Svcs			
IT Hours - Customer Support	Development Svcs			
IT Hours - Planned Maintenance	Development Svcs			
User Hours - New Development	Development Svcs			
User Hours - PTNE/OT	Development Svcs			
Contractor Professional Services	Development Svcs			
PC System - Acquisition	Hardware			
PC System - Maintenance	Hardware			
Notebook - Acquisition	Hardware			
Notebook - Maintenance	Hardware			
Tablet Notebook - Acquisition	Hardware			
Tablet Notebook - Maintenance	Hardware			
Laserprinter - Acquisition	Hardware			
Laserprinter - Maintenance	Hardware			
PC Maintenance User Owned	Hardware			
Printer Maintenance User Owned	Hardware			
File Space (100GB)	Hardware			
Package Software - Acquisition	Software			
Package Software - Maintenance	Software			
Business Objects Access	Software			
Term Emulation SFTW-Acquisition	Software			
Term Emulation SFTW-Maintenance	Software			
Server - Acquisition/Upgrade	Infrastructure			
Server - Maintenance	Infrastructure			
Server Sftwre - Acquisition/Upgrade	Infrastructure			
Server Sftwre - Maintenance	Infrastructure			
Server Rack Mount	Infrastructure			
Oracle Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure			
Oracle Enterprise Per Processor - Year 2 and Beyond	Infrastructure			
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure			
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure			

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Cost Detail

Cost Description	Project Cost Category	st Extensions		
		Y4	Y5	Y6
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure			
SQL Server Enterprise - Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure			
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure			
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure			
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure			
SQL Server - Standard Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure			
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure			
Websphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure			
Websphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure			
Websphere ND Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure			
SSL Certificate	Infrastructure			
Internet Access	Infrastructure			
Imperva Web Application Firewall (External Web Applications Only)	Infrastructure			
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure			

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Cost Detail

Cost Description	Project Cost Category	Cost Extensions		
		Y4	Y5	Y6
Database (5 GB) on Consolidated SQL Instance Server	Infrastructure			
Database Instance (125 GB DB) on Consolidated SQL Server	Infrastructure			
Database SQL Maint Server	Infrastructure			
Database SQL Server Physical	Infrastructure			
DB Maintenance (Annual Cycle $610)	Infrastructure			
DB Maintenance (Semi-Annual Cycle $1220)	Infrastructure			
DB Maintenance (Semi-Annual Cycle $2440)	Infrastructure			
Dedicated Virtual Server	Infrastructure			
DB Instance Setup	Infrastructure			
DBA MS SQL Database Creation on Exisitng Instance	Infrastructure			
Extra Small - 2 Core 8GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $601 On Premise Physical Server = N/A	Infrastructure			
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $951 On Premise Physical Server = $9,288	Infrastructure			
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $1,702 On Premise Physical Server = $9,751	Infrastructure			
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $3,167 On Premise Physical Server = $10,446	Infrastructure			
Extra Large - 40 Core 160GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $7,564 On Premise Physical Server = $12,906	Infrastructure			

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Return on Investment Analysis

Cost Summary

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Development Services:							
IT Hours - New Development							
IT Hours - System Maintenance							
IT Hours - Customer Support							
IT Hours - Planned Maintenance	106,590						106,590
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	*106,590*						*106,590*
Hardware:							
Hardware Subtotal:							
Software:							
Software Subtotal:							
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	*106,590*						*106,590*

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Assumptions

Date	Assumption Description