

Oakland County Department of Information Technology Project Scope and Approach

Project Name: CLEMIS MDC Program

Project ID: D49183PG

Leadership Group: CLEMIS			
Department: IT		Division: CLEMIS	
Project Sponsor: Jeff Nesmith	Date Requested: 10/01/2018	PM Customer No. 183	
Request Type: Planned Maintenance & Upgrade			
IT Team Name: Bio and Corrections		IT Team No: 4	
Project Manager/Leader: Stephen Beck			
Account Number: 63500	Account Description: CLEMIS Fund	Customer Name: CLEMIS	
Grant Funded? No	Mandate? No	Mandate Source:	

Project Goal

To supplement various CLEMIS mobile computing infrastructure so that the network, applications and data remain robust, reliable and secure but also accommodate multiple user devices.

Business Objective

Build an infrastructure that is able to ensure the integrity of the CLEMIS network, applications and data from the following MDC User Types:

- CLEMIS imaged device and owned MDC's and CAD Work Stations.
- CLEMIS imaged device and Oakland County owned MDC's.
- Non CLEMIS imaged device and BYOD MDC owned.

Major Deliverables

- Create mobile device OS and Anti-Virus patch management processes and protocols.
- Create mobile device virus scanning processes and protocols.
- Create mobile device imaging processes and protocols.

Approach

- Review infrastructure components that need to be replaced and/or upgraded.
- Integrate infrastructure components and services as necessary.
- Introduce new infrastructure processes and procedures as necessary.
- Provide training and post-installation support as needed.

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Research & Analysis

Gartner Research Recommendation

Research Conducted – Nothing Found.

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users	7,000+
Divisions	CLEMIS
Leadership Groups	CLEMIS

Risk

Business Environment

Low - Little or no impact to existing business processes.

Technical Environment

Medium - Previously implemented technologies with new aspects and/or new requirements.

Assumptions

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

Other Staffing: additional staffing will be available as follows:

Facilities

- Nothing identified at this time.

Technical

- Nothing identified at this time.

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Funding

- CLEMIS Funded

Other

- N/A

Priority

- Planned Maintenance & Upgrade

Constraints

- Nothing identified at this time.

Exclusions

- N/A

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PROJECT PHASE AUTHORIZATION

Phase(s): All	
Total Estimated Application Services	Hours: Cost:
Total Estimated Technical Systems	Hours: 15 Cost: \$2,475
Total Estimated CLEMIS	Hours: 2791 Cost: \$ 460,515
Total Estimated Internal Services	Hours: Cost:
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: 2806	Cost: \$462,990
Preliminary Estimated Development for Future Phases	Hours:	Cost:
Grand Total Estimated Development	Hours: 2806	Cost: \$462,990

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PROJECT COMPLETION AUTHORIZATION

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

CLEMIS MDC Program - Size Estimate (+/- 10% to 50%) ×					
	Type	ID	Task Name	Estimated Hours	Estimate Notes
1	Phase	000000	PROJECT MANAGEMENT	700	
2	Phase	100000	Development Phase - Detection	692	
3	Phase	110000	Development Phase - New Customers	692	
4	Phase	120000	Development Phase - Existing Customers	722	
5					
1				2,806	

Oakland County -- CLEMIS MDC Program
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:	79,920	80,719	81,526	82,342	83,165	83,997	491,669
Cost Avoidance Subtotal:	0	0	0	0	0	0	0
Costs:							
Development Services Subtotal:	462,990	0	0	0	0	0	462,990
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	79,920	80,719	81,526	82,342	83,165	83,997	491,669
Annual Total Costs	462,990	0	0	0	0	0	462,990
Annual Return on Investment	(383,070)	80,719	81,526	82,342	83,165	83,997	28,679
Annual Costs/Savings Ratio	579.32%	0.00%	0.00%	0.00%	0.00%	0.00%	
Project Cumulative Statistics:							
Cumulative Total Savings	79,920	160,639	242,166	324,507	407,672	491,669	491,669
Cumulative Total Costs	462,990	462,990	462,990	462,990	462,990	462,990	462,990
Cumulative Return on Investment	(383,070)	(302,351)	(220,824)	(138,483)	(55,318)	28,679	28,679
Cumulative Cost/Savings Ratio	579.32%	288.22%	191.19%	142.67%	113.57%	94.17%	94.17%
Year Positive Payback Achieved						Year 6	Year 6
State or Federal Mandate?							No
Signatures:							
Benefits Reviewed By Project Sponsor	_____			Date:	_____		
Costs (including IT Resources) Reviewed By Information Technology Project Manager	_____			Date:	_____		

Oakland County -- CLEMIS MDC Program
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
Enable officers to access to real time information in the field previously required a user to login to a desktop computer.	Intangible Benefit	CLEMIS	ANN	0	0	0	0.000
Ensure that no matter what device is being used it can access the CLEMIS applications and its secure and up to date with VPN and AntiVirus patching.	Intangible Benefit	CLEMIS	ANN	0	0	0	0.000
Provide a secure and cheap option for agencies to introduce Mobile devices to their officers.	Intangible Benefit	CLEMIS	ANN	0	0	0	0.000
Standardize VPN and AntiVirus support/maintenance of devices no matter the owner, County or Agency. Typically devices were manually upgraded. On average each device would take about 60 minutes to upgrade or patch. Now through the use of the monitoring tools provided by our VPN and AntiVirus software, we can automatically patch and upgrade mobile devices in 20 minutes.	Cost Avoidance	CLEMIS	ANN	2,000	20	39,960	1.010
Currently our team has no idea if a device is infected. The only way we know is when an agency notifies us. Now with the monitoring software in AntiVirus we can monitor and run reports to identify any infected mobile devices.	Cost Avoidance	CLEMIS	ANN	2,000	20	39,960	1.010
						0	

Oakland County -- CLEMIS MDC Program
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
Enable officers to access to real time information in the field previously required a user to login to a desktop computer.	Intangible Benefit	x	x	x	x	x	x	0.00	0.00	0.00	0.00	0.00	0
Ensure that no matter what device is being used it can access the CLEMIS applications and its secure and up to date with VPN and AntiVirus patching.	Intangible Benefit	x	x	x	x	x	x	0.00	0.00	0.00	0.00	0.00	0
Provide a secure and cheap option for agencies to introduce Mobile devices to their officers.	Intangible Benefit	x	x	x	x	x	x	0.00	0.00	0.00	0.00	0.00	0
Standardize VPN and AntiVirus support/maintenance of devices no matter the owner, County or Agency. Typically devices were manually upgraded. On average each device would take about 60 minutes to upgrade or patch. Now through the use of the monitoring tools provided by our VPN and AntiVirus software, we can automatically patch and upgrade mobile devices in 20 minutes.	Cost Avoidance	x	x	x	x	x	x	39,960.00	40,359.60	40,763.20	41,170.83	41,582.54	41,998
Currently our team has no idea if a device is infected. The only way we know is when an agency notifies us. Now with the monitoring software in AntiVirus we can monitor and run reports to identify any infected mobile devices.	Cost Avoidance	x	x	x	x	x	x	39,960.00	40,359.60	40,763.20	41,170.83	41,582.54	41,998

Oakland County -- CLEMIS MDC Program
Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	
Tangible Benefit:								
Standardize VPN and AntiVirus support/maintenance of devices no matter the owner, County or Agency. Typically devices were manually upgraded. On average each device would take about 60 minutes to upgrade or patch. Now through the use of the monitoring tools provided by our VPN and AntiVirus software, we can automatically patch and upgrade mobile devices in 20 minutes.	39,960	40,360	40,763	41,171	41,583	41,998	245,835	
Currently our team has no idea if a device is infected. The only way we know is when an agency notifies us. Now with the monitoring software in AntiVirus we can monitor and run reports to identify any infected mobile devices.	39,960	40,360	40,763	41,171	41,583	41,998	245,835	
<i>Tangible Benefits Subtotal:</i>	79,920	80,719	81,526	82,342	83,165	83,997	491,669	491,669
Cost Avoidance:								
<i>Cost Avoidance Subtotal:</i>								
Intangible Benefit:								

Oakland County -- CLEMIS MDC Program
Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	
Enable officers to access to real time information in the field previously required a user to login to a desktop computer.	0	0	0	0	0	0		
Ensure that no matter what device is being used it can access the CLEMIS applications and its secure and up to date with VPN and AntiVirus patching.	0	0	0	0	0	0		
Provide a secure and cheap option for agencies to introduce Mobile devices to their officers.	0	0	0	0	0	0		
Savings Total:	79,920	80,719	81,526	82,342	83,165	83,997	491,669	491,669

Oakland County -- CLEMIS MDC Program
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 Cost				
								Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3		
IT Hours - New Development	Development Svcs			0	165	0												
IT Hours - System Maintenance	Development Svcs				138	0												
IT Hours - Customer Support	Development Svcs				138	0												
IT Hours - Planned Maintenance	Development Svcs			2,806	165	462,990		x						462,990.00				
User Hours - New Development	Development Svcs					0												
User Hours - PTNE/OT	Development Svcs					0												
Contractor Professional Services	Development Svcs					0												
PC System - Acquisition	Hardware				814	0												
PC System - Maintenance	Hardware				2,304	0												
Notebook - Acquisition	Hardware				1,223	0												
Notebook - Maintenance	Hardware				2,372	0												
Tablet Notebook - Acquisition	Hardware				2,012	0												
Tablet Notebook - Maintenance	Hardware					0												
Laserprinter - Acquisition	Hardware				1,432	0												
Laserprinter - Maintenance	Hardware				1,104	0												
Image Workstations - Acquisition	Hardware					0												
Image Workstations - Maintenance	Hardware				3,496	0												
PC Maintenance User Owned	Hardware				2,304	0												
Printer Maintenance User Owned	Hardware				1,072	0												
File Space (100GB)	Hardware		ANN		173	0												
Internet Bandwidth per MB	Hardware		ANN		750	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												

Oakland County -- CLEMIS MDC Program
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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 Cost				
								Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3		
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure				20,759	0												
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												

Oakland County -- CLEMIS MDC Program
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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 Cost			
								Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3	
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure		ANN		415	0											
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 Existing 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											

Oakland County -- CLEMIS MDC Program
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	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			
Image Workstations - Acquisition	Hardware			
Image Workstations - Maintenance	Hardware			
PC Maintenance User Owned	Hardware			
Printer Maintenance User Owned	Hardware			
File Space (100GB)	Hardware			
Internet Bandwidth per MB	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			

Oakland County -- CLEMIS MDC Program
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Extensions		
		Y4	Y5	Y6
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure			
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			

Oakland County -- CLEMIS MDC Program
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Cost Detail

Cost Description	Project Cost Category	Extensions		
		Y4	Y5	Y6
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure			
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 Existing 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			

Oakland County -- CLEMIS MDC Program
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	462,990						462,990
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
<i>Development Services Subtotal:</i>	462,990						462,990
Hardware:							
<i>Hardware Subtotal:</i>							
Software:							
<i>Software Subtotal:</i>							
Infrastructure:							
<i>Infrastructure Subtotal</i>							
Training:							
<i>Training Subtotal:</i>							
Other:							
<i>Other Subtotal:</i>							
Costs Total:	462,990						462,990

