Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: CLEMIS Radio Replacement Program **Project ID: DL9183RC**

Leadership Group: CLEMIS		
Department: IT	**Division: CLEMIS Radio**	
Project Sponsor: Jeff Nesmith	**Date Requested: 5/6/2018**	**PM Customer No. 183**
Request Type: ***Upgrade***		
IT Team Name: CLEMIS - Radio Communication	**IT Team No: L**	
Project Manager/Leader: Brian Smith		
Account Number: 98938	**Account Description:** OAKWIN Radio System Enh	**Customer Name:** CLEMIS
Grant Funded? **No**	**Mandate? No** **Mandate Source:**	

Program Goal

To replace the current radio communication to Public Safety and governmental users so that the equipment will be supported as well as taking advantage of technological advancements of the last decade.

Business Objective

Replace approximately seventy radio dispatch consoles located at twenty PSAPS. This includes tower site equipment, the console workstations, all back-room equipment and updated connectivity to locally owned radio transmitters, alarms, intercom systems and such.

The new Public Safety Communications system to take advantage of the technological advances of the past decade, requiring less physical space than the current equipment, and offers levels of redundancy absent in the existing system to meet the County's long-term needs.

Major Deliverables

- RFP document
- Detailed Project Plan
- Application and/or System Requirements
- Completed and Signed Vendor Contract
- End User Hardware and Software Requirements Document
- System Design Documents
- Replacement of Hardware and Software
- Training Plan
- User Acceptance Test Plan
- Implementation Plan
- Training/User Manual(s)
- Service Level Agreement

- Disaster Recovery Toolkit
- Service Center Knowledge Documents

Approach

- Create and Prepare RFP
- Develop Detailed Project Plan
- Complete and Sign Contract
- Document system requirements
- Determine and document system architecture and diagram
- Assess User Hardware and Software Requirements
- Conduct Tech Review
- Develop Implementation Plan
- Develop User Acceptance Test Plan
- Test new system
- Acquire User Acceptance Sign off
- Conduct Change Control
- Develop User Documentation, SLA, Disaster Recovery Toolkit, Service Center Knowledge Documents
- Train users on new system
- Release and Deploy New System into Production

Research & Analysis

Gartner Research Recommendation

Research Conducted; Nothing Found

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users	6,500
Divisions	CLEMIS Radio
Leadership Groups	CLEMIS

Risk

Business Environment	Low - Little or no impact to existing business processes.

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

Assumptions

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

Other Staffing: additional staffing will be available as follows:

Role:	Name	Hours per Day
Project Sponsor:	Jeff Nesmith	As-needed

Facilities

- None

Technical

- Network configuration will be revised as needed
- IT, in coordination with the CLEMIS Radio Staff and vendor, will develop the method for assuring security compliance.

Funding

- Radio Comm – E911

Other

- None

Priority

Constraints

- None

Exclusions

- None

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PROJECT PHASE AUTHORIZATION

Phase(s):	**All**	
Total Estimated Application Services	**Hours:**	
Total Estimated Technical Systems	**Hours:**	**320**
Total Estimated CLEMIS	**Hours:**	**10,388**
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:**	**Cost:**
Preliminary Estimated Development for Future Phases	**Hours:**	**Cost:**
Grand Total Estimated Development	**Hours: 10,708**	**Cost: $1,766,820**

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Project Scope and Approach

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PROJECT COMPLETION AUTHORIZATION

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

CLEMIS Radio Replacement Program - Size Estimate (+/- 10% to 50%)

	Type	ID	Task Name	Estimated	Estimate Notes
2				Hours	
3	3	000000	PROJECT MANAGEMENT	2,619	
4	Phase	100000	DEVELOPMENT PROGRAM	8,089	
5				10,708	

DL9183RC

Oakland County -- CLEMIS Radio Replacement Program

As Of: 5/6/2018

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:	1,766,820	0	0	0	0	0	1,766,820
Hardware Subtotal:	7,500,000	7,500,000	7,500,000	7,500,000	0	0	30,000,000
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	9,266,820	7,500,000	7,500,000	7,500,000	0	0	31,766,820
Annual Return on Investment	(9,266,820)	(7,500,000)	(7,500,000)	(7,500,000)			(31,766,820)
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	9,266,820	16,766,820	24,266,820	31,766,820	31,766,820	31,766,820	31,766,820
Cumulative Return on Investment	(9,266,820)	(16,766,820)	(24,266,820)	(31,766,820)	(31,766,820)	(31,766,820)	(31,766,820)
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:			

REV: February 24, 2012

Oakland County -- CLEMIS Radio Replacement 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
Adding significant amount of redundancy for improved reliability and accessibility.	Intangible Benefit					0	
Shared resources across the entire network provide the ability to easily relocate dispatch operations in the event of a major outage provides for disaster recovery that is currently not possible.	Intangible Benefit					0	
There is no longer any support, maintenance or spare parts from the vendor/factory for the existing equipment. We are 100% reliant on the secondary/surplus market for spares/replacement parts.	Intangible Benefit					0	
Migrates the County to a Common Air Interface (CAI) enabling seamless interopability with neighboring counties as well as the State.	Intangible Benefit					0	
						0	
						0	

Oakland County -- CLEMIS Radio Replacement Program

Return on Investment Analysis

Savings Detail

Benefit/Savings Description	Project Savings Category	Affects Project ROI? Y1	Y2	Y3	Y4	Y5	Y6	Potential Savings Extensions Y1	Y2	Y3	Y4	Y5	Y6
Adding significant amount of redundancy for improved reliability and accessibility.	Intangible Benefit												
Shared resources across the entire network provide the ability to easily relocate dispatch operations in the event of a major outage provides for disaster recovery that is currently not possible.	Intangible Benefit												
There is no longer any support, maintenance or spare parts from the vendor/factory for the existing equipment. We are 100% reliant on the secondary/surplus market for spares/replacement parts.	Intangible Benefit												
Migrates the County to a Common Air Interface (CAI) enabling seamless interopability with neighboring counties as well as the State.	Intangible Benefit												

Oakland County -- CLEMIS Radio Replacement 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:								
	Tangible Benefits Subtotal:							
Cost Avoidance:								
	Cost Avoidance Subtotal:							
Intangible Benefit:								
	Adding significant amount of redundancy for improved reliability and accessibility.							
	Shared resources across the entire network provide the ability to easily relocate dispatch operations in the event of a major outage provides for disaster recovery that is currently not possible.							
	There is no longer any support, maintenance or spare parts from the vendor/factory for the existing equipment. We are 100% reliant on the secondary/surplus market for spares/replacement parts.							
	Migrates the County to a Common Air Interface (CAI) enabling seamless interopability with neighboring counties as well as the State.							
Savings Total:								

Oakland County -- CLEMIS Radio Replacement 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? Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - Development	Development Svcs	Radio/E911 Fund	HR	10,708	165	1,766,820		x					
IT Hours - Customer Support	Development Svcs				165	0							
IT Hours - Planned Maintenance	Development Svcs				165	0							
User Hours - New Development	Development Svcs					0							
User Hours - PTNE/OT	Development Svcs					0							
Contractor Professional Services	Development Svcs					0							
Vendor Proposed Cost Estimate	Hardware	Radio/E911 Fund		1	7,500,000	7,500,000		X	X	X	X		
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							
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							
MS SQL Server Standard Per Processor - Includes Year 1 Maintenance	Infrastructure				4,725	0							
MS SQL Server Standard Per Processor - Year 2 and Beyond	Infrastructure				946	0							

Oakland County -- CLEMIS Radio Replacement 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? Y1	Y2	Y3	Y4	Y5	Y6
MS SQL Server Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure				19,693	0							
MS SQL Server Enterprise Per Processor - Year 2 and Beyond	Infrastructure				3,939	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							
Project Staff Training	Training					0							
User Training	Training					0							
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							

Oakland County -- CLEMIS Radio Replacement 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? Y1	Y2	Y3	Y4	Y5	Y6
File Space (100GB)	Hardware		ANN		173	0							
Internet Bandwidth per MB	Hardware		ANN		750	0							
DB Instance Setup	Infrastructure				976	0							
DBA MS SQL Database Creation on Exisitng Instance	Infrastructure				366	0							
DBA MS SQL Installation and Instance Creation (10hrs)	Infrastructure				1,220	0							
DBA MS SQL Instance Creation on Consolidated or Existing Server (8hrs)	Infrastructure				976	0							
Server Admin App Code Virtual Directory Setup (1hr)	Infrastructure				122	0							
Server Admin Install Physical Server / Install OS (12hrs)	Infrastructure				1,464	0							
Server Admin Virtual Machine Creation (5hrs)	Infrastructure				610	0							

Oakland County -- CLEMIS Radio Replacement Program

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - Development	Development Svcs	1,766,820.00					
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						
Vendor Proposed Cost Estimate	Hardware	7,500,000.00	7,500,000.00	7,500,000.00	7,500,000.00		
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						
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						
MS SQL Server Standard Per Processor - Includes Year 1 Maintenance	Infrastructure						
MS SQL Server Standard Per Processor - Year 2 and Beyond	Infrastructure						

Oakland County -- CLEMIS Radio Replacement Program

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
MS SQL Server Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure						
MS SQL Server Enterprise Per Processor - Year 2 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						
Project Staff Training	Training						
User Training	Training						
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						

Oakland County -- CLEMIS Radio Replacement Program

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
File Space (100GB)	Hardware						
Internet Bandwidth per MB	Hardware						
DB Instance Setup	Infrastructure						
DBA MS SQL Database Creation on Exisitng Instance	Infrastructure						
DBA MS SQL Installation and Instance Creation (10hrs)	Infrastructure						
DBA MS SQL Instance Creation on Consolidated or Existing Server (8hrs)	Infrastructure						
Server Admin App Code Virtual Directory Setup (1hr)	Infrastructure						
Server Admin Install Physical Server / Install OS (12hrs)	Infrastructure						
Server Admin Virtual Machine Creation (5hrs)	Infrastructure						

Oakland County -- CLEMIS Radio Replacement 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 - Development	1,766,820						1,766,820
IT Hours - Customer Support							
IT Hours - Planned Maintenance							
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	***1,766,820***						***1,766,820***
Hardware:							
Vendor Proposed Cost Estimate	7,500,000	7,500,000	7,500,000	7,500,000			30,000,000
Hardware Subtotal:	***7,500,000***	***7,500,000***	***7,500,000***	***7,500,000***			***30,000,000***
Software:							
Software Subtotal:							
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	***9,266,820***	***7,500,000***	***7,500,000***	***7,500,000***			***31,766,820***

Oakland County -- CLEMIS Radio Replacement Program

Return on Investment Analysis

Assumptions

Date	Assumption Description
09-May-18	Rough estimates, anticipate changes based on responses to forthcoming RFP.