Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: Radio Management WIFI   **Project ID: DL3183WI**

Leadership Group: CLEMIS Radio		
Department: IT	**Division: CLEMIS Radio**	
Project Sponsor: Jim Manning	**Date Requested: 06/09/22**	**PM Customer No. 183**
Request Type: *New Development* *Enhancement* *Customer Support* *Planned System Maintenance or Upgrade*		
IT Team Name: CLEMIS Radio	**IT Team No: L**	
Project Manager/Leader: Patty Salter		
Account Number:	**Account Description:**	**Customer Name:**
Grant Funded? Yes No	**Mandate? Yes No** **Mandate Source:**	

Project Goal

To setup a WIFI Programming Network pilot on the "Oaknet" Oakland County network for Motorola radio administration via WIFI hotspots so that radio administration, configuration and template updates can be instantly made remotely for all pilot Oakland County agency radio groups.

Business Objective

Major Deliverables
➢ Emulate the current Open Sky Radio Management System for the new Motorola radios.
➢ Release and manage RFP as needed.
➢ Determine how Motorola Management System will be implemented by CLEMIS Radio rather than an outside contractor.
➢ Purchase equipment needed at each WIFI site for Radio Management downloads.
➢ Engage OCIT Server Admin to build, install, and maintain (24) small physical servers (1 at each agency pilot site).
➢ Engage OCIT Network Services to configure each pilot WIFI site to the site Radio Management WIFI server.
➢ Rollout Radio Management WIFI to Oakland County **(24)** pilot sites:
  o (3) Radioshop Vehicle mobile programming hotspots
  o Addison Sub-Station
  o Brandon Sub-Station
  o Brandon Twp. Fire
  o Commerce Sub-Station/Commerce Twp. Fire
  o Highland Sub-Station
  o Independence Sub-Station/Independence Fire
  o Lyon Sub-Station/Lyon Twp. Fire

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- o   Oakland Sub-Station
- o   Orion Sub-Station
- o   Oxford Sub-Station
- o   Pontiac Sub-Station
- o   Rochester Hills Sub-Station
- o   Springfield Sub-Station
- o   Central Garage/Radio shop
- o   Sheriff's main station
- o   Oakland Community Collage
- o   Oakland University
- o   Rochester City PSAP
- o   Troy PSAP
- o   Waterford PSAP
- o   Wixon PSAP

Approach
- ➢ Determine if work can be completed inhouse or RFP bid required.
- ➢ Design network implementation strategy with Network Services team.
- ➢ Design server build, configuration, deployment, support and maintenance with Server Admin teams.
- ➢ Conduct a technical review meeting and deploy architecture documents.
- ➢ Schedule deployment rollout with Network Services and Server Admin for the (24) Oakland County pilot sites.
- ➢ Create and utilize a deployment test script to verify remote changes which typically occur 3-4 times weekly:
  - o   Talk groups
  - o   Alias
  - o   profiles

Business Objective – Next Project, Next Master Plan?

Major Deliverables
- ➢ Determine future agency rollout (*61 additional sites*) based on the pilot success:

Approach
- ➢ Estimate sizing for the remaining (61) sites based on the pilot sites effort.

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Research & Analysis

IT Research & Advisory Services Recommendation (select one)

- Research Conducted – See recommendation below (enter short paragraph).

The recommendation is to attempt to use WIFI locations which are part of "Oaknet" (closed network) to manage radio administration remotely. Open Sky Radio Management is currently used and must be replaced by a new system for the Motorola radios once rollout begins in order to avoid physical, manual maintenance. Possibility that we may need to expand to the internet if we do not have enough hotspots available on the "Oaknet" network.

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users   3,500

Divisions   **Public Safety (CLEMIS Agencies - Police, Fire, OCSO)**

Leadership Groups **CLEMIS Radio**

Risk

Business Environment   **High -** Project will dramatically change existing business processes or will negatively affect the business environment if implementation is unsuccessful.

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:

Role:	**Name**	**Hours per Day**
Project Sponsor:	Jim Manning	

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Facilities

-

-

Technical

-

-

Funding

- Funding needed. Research utilizing Radio Budget for Open Sky items no longer being used.

Other

-

Priority

Constraints

- Needed 1st quarter of 2024.   Jan-March
- Future: expand out to (61) additional sites to include everyone. Separate project in future MP.
- (55) Open Sky sites will be transitioned to (31) Motorola sites in the Radio project.

Exclusions

- (61) additional sites to be estimated in the future.

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PROJECT PHASE AUTHORIZATION

Phase(s): All		
Total Estimated Application Services	**Hours:**	
Total Estimated Technical Systems	**Hours: 184**	
Total Estimated CLEMIS	**Hours: 451**	
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: 635**	
Previously Authorized Development	**Hours:**	
Preliminary Estimated Development for Future Phases	**Hours:**	
Grand Total Estimated Development	**Hours: 635**	**Cost: $104,775**

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PROJECT COMPLETION AUTHORIZATION

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

	Type	ID	Task Name	Estimated Hours	Estima
			Radio Management WIFI - Size Estimate - Scope Change Management	Radio Management WIFI - Size Estimate (+/- 10% to 50%) ×	
1	Phase	000000	⊟ PROJECT MANAGEMENT	158	
2	Phase	200000	⊟ DEFINE BUSINESS REQUIREMENTS	91	
3	Phase	300000	⊟ DESIGN SYSTEM ARCHITECTURE	34	
4	Phase	500000	⊟ DEVELOP APPLICATION	115	
5	Phase	600000	⊟ IMPLEMENTATION PHASE	221	
6	Phase	800000	⊟ POST IMPLEMENTATION SUPPORT	16	
7					
1				635	

Oakland County -- Radio Management WIFI

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:	5,340	5,340	5,340	5,340	5,340	5,340	32,040
Costs:							
Development Services Subtotal:	104,775	5,438	3,851	5,770	4,086	6,121	130,041
Hardware Subtotal:	73,368	0	0	0	0	0	73,368
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	5,340	5,340	5,340	5,340	5,340	5,340	32,040
Annual Total Costs	178,143	5,438	3,851	5,770	4,086	6,121	203,409
Annual Return on Investment	(172,803)	(98)	1,489	(430)	1,254	(781)	(171,369)
Annual Costs/Savings Ratio	3336.01%	101.84%	72.12%	108.04%	76.51%	114.62%	
Project Cumulative Statistics:							
Cumulative Total Savings	5,340	10,680	16,020	21,360	26,700	32,040	32,040
Cumulative Total Costs	178,143	183,581	187,432	193,202	197,288	203,409	203,409
Cumulative Return on Investment	(172,803)	(172,901)	(171,412)	(171,842)	(170,588)	(171,369)	(171,369)
Cumulative Cost/Savings Ratio	3336.01%	1718.93%	1169.99%	904.50%	738.91%	634.86%	634.86%
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:			

Oakland County -- Radio Management WIFI

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
Ability to make Instant radio template changes	Intangible Benefit					0	
Ability to quickly create an instant talk radio group for first responders in an emergency situation	Intangible Benefit					0	
Improved control and accuracy of radio administration changes	Intangible Benefit						
Avoid manual process to maintian 6,000 radios	Cost Avoidance	OCSO yearly update for all radios vs. a few minutes		60	89	5,340	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	

Oakland County -- Radio Management WIFI
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
Ability to make Instant radio template changes	Intangible Benefit												
Ability to quickly create an instant talk radio group for first responders in an emergency situation	Intangible Benefit												
Improved control and accuracy of radio administration changes	Intangible Benefit												
Avoid manual process to maintian 6,000 radios	Cost Avoidance	x	x	x	x	x	x	5,340.00	5,340.00	5,340.00	5,340.00	5,340.00	5,340

Oakland County -- Radio Management WIFI

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:							
Avoid manual process to maintian 6,000 radios	5,340	5,340	5,340	5,340	5,340	5,340	32,040
Cost Avoidance Subtotal:	*5,340*	*5,340*	*5,340*	*5,340*	*5,340*	*5,340*	*32,040*
Intangible Benefit:							
Ability to make Instant radio template changes							
Ability to quickly create an instant talk radio group for first responders in an emergency situation							
Improved control and accuracy of radio administration changes							
Savings Total:	*5,340*	*5,340*	*5,340*	*5,340*	*5,340*	*5,340*	*32,040*

Oakland County -- Radio Management WIFI

Date: 7/26/2022

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	Y1	Y2	Y3	Y4	Y5	Y6
								Affects Project ROI?					
IT Hours - New Development - Radio	Development Svcs			238	165	39,270	1.030	X					
IT Hours - New Development - IT CLEMIS	Development Svcs			237	165	39,105	1.030	X					
IT Hours - New Development - NS	Development Svcs			85	165	14,025	1.030	X					
IT Hours - New Development - SA	Development Svcs			75	165	12,375	1.030	X					
IT Hours - System Maintenance	Development Svcs			10	165	1,650	1.030		X	X	X	X	X
IT Hours - Customer Support	Development Svcs			12	165	1,980	1.030		X	X	X	X	X
IT Hours - Planned Maintenance	Development Svcs			10	165	1,650	1.030		X		X		X
User Hours - New Development	Development Svcs					0							
User Hours - PTNE/OT	Development Svcs					0							
Contractor Professional Services	Development Svcs					0							
PC System - Acquisition	Hardware				639	0							
PC System - Maintenance	Hardware				3,352	0							
Laptop - Acquisition	Hardware				922	0							
Laptop - Maintenance	Hardware				3,352	0							
Tablet Notebook - Acquisition	Hardware				1,069	0							
Tablet Notebook - Maintenance	Hardware				3,352	0							
Package Software - Acquisition	Software					0							
Package Software - Maintenance	Software					0							
SSL Certificate	Infrastructure				910	0							
Internet Access	Infrastructure				190	0							
Imperva Web Application Firewall (External Web Applications Only)	Infrastructure		ANN		500	0							
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $951 On Premise Physical Server = $3,057	Infrastructure		ANN	24	3,057	73,368	1.000	X					

REV: February 22, 2022

Oakland County -- Radio Management WIFI

Return on Investment Analysis
Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development - Radio	Development Svcs	39,270.00					
IT Hours - New Development - IT CLEMIS	Development Svcs	39,105.00					
IT Hours - New Development - NS	Development Svcs	14,025.00					
IT Hours - New Development - SA	Development Svcs	12,375.00					
IT Hours - System Maintenance	Development Svcs		1,699.50	1,750.49	1,803.00	1,857.09	1,912.80
IT Hours - Customer Support	Development Svcs		2,039.40	2,100.58	2,163.60	2,228.51	2,295.36
IT Hours - Planned Maintenance	Development Svcs		1,699.50		1,803.00		1,912.80
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						
Laptop - Acquisition	Hardware						
Laptop - Maintenance	Hardware						
Tablet Notebook - Acquisition	Hardware						
Tablet Notebook - Maintenance	Hardware						
Package Software - Acquisition	Software						
Package Software - Maintenance	Software						
SSL Certificate	Infrastructure						
Internet Access	Infrastructure						
Imperva Web Application Firewall (External Web Applications Only)	Infrastructure						
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $951 On Premise Physical Server = $3,057	Infrastructure	73,368.00					

Oakland County -- Radio Management WIFI

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 - Radio	39,270						39,270
IT Hours - New Development - IT CLEMIS	39,105						39,105
IT Hours - New Development - NS	14,025						14,025
IT Hours - New Development - SA	12,375						12,375
IT Hours - System Maintenance		1,700	1,750	1,803	1,857	1,913	9,023
IT Hours - Customer Support		2,039	2,101	2,164	2,229	2,295	10,827
IT Hours - Planned Maintenance		1,700		1,803		1,913	5,415
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	**104,775**	**5,438**	**3,851**	**5,770**	**4,086**	**6,121**	**130,041**
Hardware:							
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = $951 On Premise Physical Server = $3,057	73,368						73,368
Hardware Subtotal:	**73,368**						**73,368**
Software:							
Software Subtotal:							
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	**178,143**	**5,438**	**3,851**	**5,770**	**4,086**	**6,121**	**203,409**

Oakland County -- Radio Management WIFI
Return on Investment Analysis
Assumptions

Date	Assumption Description