Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: FM LED Sign Service Model **Project ID: D12148LS**

Leadership Group: Land					
Department: Information Technology			**Division: Application Services**		
Project Sponsor: Art Holdsworth		**Date Requested:** 12/18/2019		**PM Customer No. ???**	
Request Type: ***New Development*** ***Enhancement*** ***Customer Support*** ***Planned System Maintenance or Upgrade***					
IT Team Name: Infrastructure and GIS			**IT Team No: 1**		
Project Manager/Leader: Dennis Faustich					
Account Number:	75503	**Account Description:**	FM&O Development	**Customer Name:**	Facilities Mgmt
Grant Funded? **Yes** **No**			**Mandate?** **Yes** **No** **Mandate Source:**		

Project Goal

To create a service model for public-facing electronic LED signs located on Oakland County's campus, so that Oakland County Information Technology can support customer incidents, software maintenance and network security.

Business Objective

To create an electronic LED Sign service model to support Oakland County department requests.

Major Deliverables

- Detailed Project Plan
- Migrate Contract to Information Technology
- Secure Device Network Connectivity
- Design/Document Support Model
- Service Center Knowledge Documents
- Transition and Rollout Service Model

Approach

- Detailed Project Plan
- Migrate Contract to Information Technology
- Document Planned Maintenance, New Installation and Support Models
- Setup Service Center Incidents
- Create Service Center Documents
- Transition and Rollout Service Model

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Research & Analysis

Gartner Research Recommendation - Research yielded no results

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users 2-5

Divisions N/A

Leadership Groups Land

Risk

Business Environment Medium – Project requires some changes to existing business processes

Technical Environment Low – Proven or previously implemented technologies.

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	Art Holdsworth	As Needed

Project Name: FM LED Sign Service Model **Project ID: D12148LS**

Facilities

- IT Conference rooms will be available as needed

Technical

- Current LED signs use a 4G LTE network connection and do not require a connection to the Oakland County Network.
- LED Sign Software is loaded on Oakland County tagged devices.

Funding

- IT Funded

Other

- IT will not be responsible or take ownership for any of the content/updates displayed on the digital signs. Executive Office will continue to maintain content displayed on sign.

Priority

-

Constraints

-

Exclusions

- Facilities will continue to support all sign cabinet hardware maintenance and replacements.

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PROJECT PHASE AUTHORIZATION

Phase(s):		
Total Estimated Application Services	**Hours: 207**	
Total Estimated Technical Systems	**Hours: 39**	
Total Estimated CLEMIS	**Hours:**	
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: 246**	
Preliminary Estimated Development for Future Phases	**Hours:**	
Grand Total Estimated Development	**Hours: 246**	**Cost: $40,590**

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PROJECT COMPLETION AUTHORIZATION

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

FM LED Sign Service Model - Size Estimate (+/- 10% to 50%)

	Type	ID	Task Name	Estimated Hours
3	Phase	000000	PROJECT MANAGEMENT	75
4	Phase	200000	DEFINE BUSINESS REQUIREMENTS	31
5	Phase	300000	DESIGN SYSTEM ARCHITECTURE	36
6	Phase	500000	DEVELOP APPLICATION	50
7	Phase	600000	IMPLEMENTATION PHASE	36
8	Phase	800000	POST IMPLEMENTATION SUPPORT	18
9				246

Oakland County -- FM LED Sign Service Model

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:	3,008	3,038	3,068	3,099	3,130	3,161	18,505
Costs:							
Development Services Subtotal:	40,590	1,667	1,683	1,700	1,717	1,734	49,091
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	3,008	3,038	3,068	3,099	3,130	3,161	18,505
Annual Total Costs	40,590	1,667	1,683	1,700	1,717	1,734	49,091
Annual Return on Investment	(37,582)	1,372	1,385	1,399	1,413	1,427	(30,586)
Annual Costs/Savings Ratio	1349.40%	54.85%	54.85%	54.85%	54.85%	54.85%	
Project Cumulative Statistics:							
Cumulative Total Savings	3,008	6,046	9,115	12,214	15,344	18,505	18,505
Cumulative Total Costs	40,590	42,257	43,940	45,640	47,357	49,091	49,091
Cumulative Return on Investment	(37,582)	(36,210)	(34,825)	(33,426)	(32,013)	(30,586)	(30,586)
Cumulative Cost/Savings Ratio	1349.40%	698.91%	482.08%	373.68%	308.64%	265.28%	265.28%
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 -- FM LED Sign Service Model

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
FPE Staff required to address software or connectivity issues reported by customers	Cost Avoidance			16	88	1,408	1.010
Clerical staff needed to process incidents, coordinate with vendor	Cost Avoidance			16	100	1,600	1.010
	Cost Avoidance					0	
						0	
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Oakland County -- FM LED Sign Service Model

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
FPE Staff required to address software or connectivity issues reported by customers	Cost Avoidance	x	x	x	x	x	x	1,408.00	1,422.08	1,436.30	1,450.66	1,465.17	1,480
Clerical staff needed to process incidents, coordinate with vendor	Cost Avoidance	x	x	x	x	x	x	1,600.00	1,616.00	1,632.16	1,648.48	1,664.97	1,682
	Cost Avoidance												

Oakland County -- FM LED Sign Service Model

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:							
FPE Staff required to address software or connectivity issues reported by customers	1,408.00	1,422.08	1,436.30	1,450.66	1,465.17	1,479.82	8,662
Clerical staff needed to process incidents, coordinate with vendor	1,600.00	1,616.00	1,632.16	1,648.48	1,664.97	1,681.62	9,843
0							
Cost Avoidance Subtotal:	***3,008***	***3,038***	***3,068***	***3,099***	***3,130***	***3,161***	***18,505***
Intangible Benefit:							
Improved support for software or network related incidents.							
Savings Total:	***3,008***	***3,038***	***3,068***	***3,099***	***3,130***	***3,161***	***18,505***

Oakland County -- FM LED Sign Service Model

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 - New Development	Development Svcs		HR	246	165	40,590	1.010	x					
IT Hours - System Maintenance	Development Svcs				165	0							
IT Hours - Customer Support	Development Svcs		HR	10	165	1,650	1.010		x	x	x	x	x
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							
PC System - Acquisition	Hardware				687	0							
PC System - Maintenance	Hardware				2,936	0							
Notebook - Acquisition	Hardware				1,115	0							
Notebook - Maintenance	Hardware				3,024	0							
Tablet Notebook - Acquisition	Hardware				1,421	0							
Tablet Notebook - Maintenance	Hardware				2,800	0							
Laserprinter - Acquisition	Hardware				1,432	0							
Laserprinter - Maintenance	Hardware				1,408	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							

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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
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							
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							

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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
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							
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							

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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
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 -- FM LED Sign Service Model

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	Development Svcs	40,590.00					
IT Hours - System Maintenance	Development Svcs						
IT Hours - Customer Support	Development Svcs		1,666.50	1,683.17	1,700.00	1,717.00	1,734.17
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						

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Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
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						
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						

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Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
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						
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						

Oakland County -- FM LED Sign Service Model

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
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 -- FM LED Sign Service Model

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	40,590						40,590
IT Hours - System Maintenance							
IT Hours - Customer Support		1,667	1,683	1,700	1,717	1,734	8,501
IT Hours - Planned Maintenance							
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	***40,590***	***1,667***	***1,683***	***1,700***	***1,717***	***1,734***	***49,091***
Hardware:							
Hardware Subtotal:							
Software:							
Software Subtotal:							
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							

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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
Costs Total:	***40,590***	***1,667***	***1,683***	***1,700***	***1,717***	***1,734***	***49,091***

Oakland County -- FM LED Sign Service Model

Return on Investment Analysis

Assumptions

Date	Assumption Description
12-Feb-20	Facilities will continue to support the LED Sign cabinet hardware maintenance and replacement
12-Mar-20	Regularly FPE staff needed to support the south sign upon needs of changing the message - Cost $88/hr x 1 hr = $88 per month. Additional time needed for clerical staff for programming - Cost $50/hr x 1 hr = $50 per month Total = $1,656 per year
12-Mar-20	When the sign still won't connect after a reboot etc. a contractor is required to fix the sign. Cost $100/hr x 10 hr avg. = $1,000 Total = $1,000
12-Mar-20	FPE assistance is needed. Cost $88/hr x 4 hr = $352 per occurrence Est total 3-4 times/yr = $1408