Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: Design & Migrate Mainframe CIP Connectivity to Modern Solution

Project ID:TN0186MC

Leadership Group: Information Technology Steering Committee	
Department: Information Technology	**Division:** Technical Systems and Networking
Project Sponsor: Mike Timm	**Date Requested:** 6/12/2020 **PM Customer No.** 186
Request Type: New Development	
IT Team Name: Workstation Services	**IT Team No:** N
Project Manager/Leader: Mike Zemina	

Account Number:	17030	Account Description:	Technical Systems and Networking	Customer Name:	Information Technology
Grant Funded?	No		**Mandate?** No		

Project Goal

To migrate from the current legacy Channel Interface Processor (CIP) routers to a newer technology so that mainframe connectivity sustainability will be improved as the routers are 25 years old.

Business Objective

The CISCO CIP routers that are currently in production, which currently provide mainframe connectivity between Oakland County and Blue Hill are 25 years old. The installation of a new version of TCP-IP, installation of a new printer session application and a recompiling of the mainframe listeners will be necessary to facilitate this migration.

Major Deliverables
- Architecture Diagram
- Recompile Mainframe Listeners
- Communication Plan
- Scope of Mainframe sessions – From SCCM (System Center Configuration Manager) report
- Delivery of SCCM packages – Printers and Terminals
- Removal of CIP Routers

Approach
- Technical design review process
- Determine scope of MF sessions
- Initial planning meeting
- Develop communication plan
- Create test scope/plan with IT CRM/Supes
- Develop training for train the trainer
- Install new version of TCP/IP and mainframe print sessions

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- Recompile MF listeners
- Test new software and validate functionality
- Deployment
- Create replacement Knowledge Docs
- Post implementation support
- Removal of CIP Routers

Research & Analysis

Research Recommendation - NA

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users	~ 800 Oakland County end users
Divisions	Courts, Lien users (Law Enforcement), Youth Assistance, Prosecutors, Reimbursements, Register of Deeds, and IT
Leadership Groups	IT, Courts, CLEMIS

Risk

Business Environment	Med = Project requires some changes to existing business processes.
Technical Environment	Low = Proven and 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
Sponsor/ TSN Stakeholder:	Mike Timm
IT Stakeholder:	EJ Widun

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Security Stakeholder:	TJ Fields
CLEMIS Stakeholder:	Jeff Nesmith
Internal Services Stakeholder:	Janette McKenna
Apps Stakeholder:	Tammi Shepherd
EA Stakeholder:	EJ Widun

Facilities

-

Technical

- Mainframe and navigation screens may change (after BlueHill discussion)
- CIP and TCP/IP solutions will run concurrently until full migration to TCP/IP is completed
- There will be a 30-day power down of CIP routers to ensure a complete migration, after the 30-day timeframe the CIP routers will be removed

Funding

- There will be a one-time fee for professional services plus licensing, additionally there will be recurring costs for software license renewals above what is currently budgeted.
- SIP funding is expecting to be utilized, the uncertainty is how much funding is available.

Other

-

Priority

Constraints

- Will require a weekend outage window

Exclusions

- None

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PROJECT PHASE AUTHORIZATION

Phase(s): ALL		
Total Estimated Application Services	**Hours: 500**	
Total Estimated Technical Systems	**Hours: 1,412**	
Total Estimated CLEMIS	**Hours:**	
Total Estimated Internal Services	**Hours: 20**	
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: 1,932**	**Cost: $318,780**

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PROJECT COMPLETION AUTHORIZATION

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

Design & Migrate Mainframe CIP Connectivity to Modern Solution - Size Estimate (+/- 10% to 50%)

	Type	ID	Task Name	Estimated	Estimate Notes
1					
2				Hours	
3	Phase	000000	PROJECT MANAGEMENT	501	
4	Phase	050000	DISCOVERY PHASE	90	
5	Phase	100000	ANALYSIS & COMMUNICATION PHASE	215	
6	Phase	200000	DEVELOP & TEST PHASE	407	
7	Phase	300000	IMPLEMENTATION PHASE	454	
8	Phase	400000	POST IMPLIMENTATION PHASE	265	
9				1,932	

Oakland County -- Design Migrate Mainframe CIP Connectivity to Modern Solution

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:	338,030	0	0	0	0	0	338,030
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	31,000	6,000	6,000	6,000	6,000	6,000	61,000
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	369,030	6,000	6,000	6,000	6,000	6,000	399,030
Annual Return on Investment	(369,030)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(399,030)
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	369,030	375,030	381,030	387,030	393,030	399,030	399,030
Cumulative Return on Investment	(369,030)	(375,030)	(381,030)	(387,030)	(393,030)	(399,030)	(399,030)
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
Reduces risk and exposure	Intangible Benefit					0	
Better management of risk and complexity through updated infrastructure	Intangible Benefit					0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						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
Reduces risk and exposure	Intangible Benefit												
Better management of risk and complexity through updated infrastructure	Intangible Benefit												

Oakland County -- Design Migrate Mainframe CIP Connectivity to Modern Solution

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:								
	Reduces risk and exposure							
	Better management of risk and complexity through updated infrastructure							
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
IT Hours - New Development	Development Svcs	Technical Services & Networking	HR	1,932	165	318,780		X					
Contractor Professional Services	Development Svcs		EA	110	175	19,250		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							
Printer Software - Acquisition	Software		EA		15,000	15,000		X					
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							
Mainframe Sftwre - Acquisition/Upgrade	Infrastructure		EA		10,000	10,000		X					
Mainframe Sftwre - Maintenance	Infrastructure		EA		6,000	6,000		X	X	X	X	X	X
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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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 -- Design Migrate Mainframe CIP Connectivity to Modern Solution

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	318,780.00					
Contractor Professional Services	Development Svcs	19,250.00					
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						
Printer Software - Acquisition	Software	15,000.00					
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						
Mainframe Sftwre - Acquisition/Upgrade	Infrastructure	10,000.00					
Mainframe Sftwre - Maintenance	Infrastructure	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
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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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						

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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						

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Oakland County -- Design Migrate Mainframe CIP Connectivity to Modern Solution

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	318,780						318,780
Contractor Professional Services	19,250						19,250
Development Services Subtotal:	*338,030*						*338,030*
Hardware:							
Hardware Subtotal:							
Software:							
Printer Software - Acquisition	15,000						15,000
Mainframe Sftwre - Acquisition/Upgrade	10,000						10,000
Mainframe Sftwre - Maintenance	6,000	6,000	6,000	6,000	6,000	6,000	36,000
Software Subtotal:	*31,000*	*6,000*	*6,000*	*6,000*	*6,000*	*6,000*	*61,000*
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	*369,030*	*6,000*	*6,000*	*6,000*	*6,000*	*6,000*	*399,030*

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Return on Investment Analysis

Assumptions

Date	Assumption Description
28-Jul-20	SIP funding is expecting to be utilized, the uncertainty is how much funding is available.

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