Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: WRC WMU Crew Scheduler **Project ID: D59611CS**

Leadership Group:	**Land**		
Department:	**Water Resources Commissioner**	**Division:**	**Administration**
Project Sponsor:	**Tim Prince**	**Date Requested: 03/02/2018**	**PM Customer No. 611**
Request Type:	**New Development** *Enhancement* *Customer Support* *Planned System Maintenance or Upgrade*		
IT Team Name: Public & Environmental Services		**IT Team No: 5**	
Project Manager/Leader:	**Stu Smith**		
Account Number: 37930	**Account Description:** WATER AND SEWER-GENERAL ADMIN	**Customer Name:**	**Water Resources Commissioner**
Grant Funded? ~~Yes~~ **No**		**Mandate?** ~~Yes~~ **No**	
		Mandate Source: N/A	

Project Goal

Implement a crew scheduling solution for WRC Billing and the Water Maintenance Units so that the WRC can manage crew deployment for water maintenance activities including meter turn-ons and shut-offs, hydrant flushing and water main taps.

Business Objective

Implement a crew scheduling solution that will allow several people to update three distinct crew schedules for WMU-North, WMU-South and Metering, while showing updated schedules immediately to all users. This solution will allow WRC to serve customers more quickly by finding “next appointment” slots faster. Currently, the WRC uses SharePoint calendars which run out of disk space twice per year, resulting in a purge of all historical data in order to free up disk space. The new system should allow the WRC to store as much historical data as is required. Further, the data should be searchable. Ideally, the system should integrate with NorthStar and CAMS, so that work orders don’t have to be prepared manually.

Major Deliverables

- Functional Requirements Specifications
- Request for Proposal
- Vendor Selection Criteria and Rating System
- Technical Architecture Diagram
- Technical Design
- Detailed Project Plan
- Data Conversion Plan
- Integrations Specifications for NorthStar and CAMS
- Implementation Plan

- Unit Test Plans
- User Acceptance Test Plan
- User Training Plan
- Service Level Agreement
- Disaster Recovery Toolkit
- Service Center Knowledge Documents

Approach

- Gather Functional Requirements
- Create RFP and Select Vendor
- Complete Contract Negotiations
- Perform Technical Design Review
- Determine Technical Design and Architecture
- Implement the System
- Implement Integrations
- Complete Unit Testing
- Complete End User Training
- Complete User Acceptance Test Plan
- Manage Rollout to Production
- Create Disaster Recovery and Support Documentation

Research & Analysis

Gartner Research Recommendation

Summary

Field service management software is specialized for organizations that send technicians to customer locations to repair or maintain equipment. Application leaders can use this research to understand the key capabilities and the benefits their organizations can gain from each functionality category.

Key Challenges

Application leaders often have a poor understanding of the missed opportunities for increased revenue, cost-efficiency and customer loyalty that their competitors are taking advantage of by deploying key capabilities in each field service management (FSM) category.

There is confusion in the market as to which capabilities are included in end-to-end FSM and how it differs from related markets such as enterprise asset management (EAM) and product life cycle management (PLM).

Application leaders supporting field service leaders need to understand the key technical capabilities required to implement each function, and that it may take multiple field service vendors to cover all six categories.

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This research explores six core functionality categories within field service and how application leaders and the field service department leaders they support can drive business benefits from each category. It also provides common measures for each function within each category. With this knowledge, IT should then work with senior management and field service leadership to prioritize investments based on the expected business benefits from each category.

1. Proactively Monitor and Collect Work Order Demands in One Place
2. Use Advanced Scheduling, Supply Chain and Forecasting Tools to Keep Customers Informed and to Reduce Incoming Calls
3. Use Mobile Technician Enablement to Help Technicians Arrive Prepared and React to Unexpected Needs
4. Digitize Your Paper-Based Work Order Debrief Process
5. Improve Field Service Office Operational Efficiency
6. Use Analytics to Measure Performance and Continuously Identify Opportunities for Improvement

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users 26

Divisions Oakland County Water Resources Commissioner's Office

Leadership Groups Land

Risk

Business Environment Medium – Project will require some changes to existing business processes.

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

Assumptions

Staffing WRC and OCIT resources will be available to execute the attached project plan.

Project Name: WRC WMU Crew Scheduler **Project ID: D59611CS**

Role:	Name	Hours per Day
WRC Project Sponsor:	Tim Prince	As Needed
WRC Project Business Lead	Nancy Basch	As Needed
WRC Subject Matter Expert	Amy Ploof, Mike Kasanic	As Needed

Facilities

- WRC and/or OCIT will have available conference rooms to accommodate team members for any meetings, demonstrations and reviews.
- Suitably equipped rooms at OCIT or other campus buildings will be utilized for end user training and/or demonstration.

Technical

- The new Crew scheduler app will be able to integrate with Northstar and Cityworks

Funding

- WRC Funded

Other

- None

Priority

- TBD

Constraints

- None

Exclusions

- None

Oakland County
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Project Scope and Approach

Project Name: WRC WMU Crew Scheduler **Project ID: D59611CS**

PROJECT PHASE AUTHORIZATION

Phase(s): All		
Total Estimated Application Services	**Hours:**	**886**
Total Estimated Technical Systems	**Hours:**	**43**
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:**	
Preliminary Estimated Development for Future Phases	**Hours:**	
Grand Total Estimated Development	**Hours: 929**	**Cost: $153,285**

Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: WRC WMU Crew Scheduler **Project ID: D59611CS**

PROJECT COMPLETION AUTHORIZATION

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

WRC WMU Crew Scheduler - Size Estimate (+/- 10% to 50%)

	Type	ID	Task Name	Estimated
2				Hours
3	**3**	**000000**	**PROJECT MANAGEMENT**	**223**
4	**Phase**	**100000**	**DEVELOP RFP & SELECT VENDOR**	**75**
5	**Phase**	**200000**	**BUSINESS REQUIREMENTS**	**75**
6	**Phase**	**300000**	**DESIGN SYSTEM ARCHITECTURE**	**61**
7	**Phase**	**400000**	**IMPLEMENT VENDOR APPLICATION**	**395**
8	**Phase**	**500000**	**IMPLEMENTATION PHASE**	**55**
9	**Phase**	**600000**	**POST IMPLEMENTATION SUPPORT**	**45**
10				929

D59611CS

WRC WMU Crew Scheduler

Return on Investment Analysis

3/2/18

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:	27,328	27,875	28,432	29,001	29,581	30,173	172,391
Costs:							
Development Services Subtotal:	165,885	19,200	12,600	19,200	12,600	19,200	248,685
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	27,328	27,875	28,432	29,001	29,581	30,173	172,391
Annual Total Costs	165,885	19,200	12,600	19,200	12,600	19,200	248,685
Annual Return on Investment	(138,557)	8,675	15,832	9,801	16,981	10,973	(76,294)
Annual Costs/Savings Ratio	607.01%	68.88%	44.32%	66.20%	42.59%	63.63%	
Project Cumulative Statistics:							
Cumulative Total Savings	27,328	55,203	83,636	112,637	142,218	172,391	172,391
Cumulative Total Costs	165,885	185,085	197,685	216,885	229,485	248,685	248,685
Cumulative Return on Investment	(138,557)	(129,882)	(114,049)	(104,248)	(87,267)	(76,294)	(76,294)
Cumulative Cost/Savings Ratio	607.01%	335.28%	236.36%	192.55%	161.36%	144.26%	144.26%
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: January 22, 2018

WRC WMU Crew Scheduler

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
						0	
Save time manually creating meter shut-off/turn-on NorthStar and CAMS work orders (7,674 in FY 2017)	Cost Avoidance		HR	256	51.86	13,266	1.02
Save time manually creating North/South WMU NorthStar and CAMS work orders (3,184 in FY 2017)	Cost Avoidance		HR	106	42.92	4,555	1.02
Eliminate searching day by day to find next available slot for appointment	Cost Avoidance		HR	183	51.86	9,507	1.02
Reduce time spent on crew scheduling would allow billing agents to assist others waiting in telephone queue.	Intangible Benefit					0	
						0	
						0	

WRC WMU Crew Scheduler

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
Save time manually creating meter shut-off/turn-on NorthStar and CAMS work orders (7,674 in FY 2017)	Cost Avoidance	x	x	x	x	x	x	13,265.79	13,531.10	13,801.73	14,077.76	14,359.32	14,647
Save time manually creating North/South WMU NorthStar and CAMS work orders (3,184 in FY 2017)	Cost Avoidance	x	x	x	x	x	x	4,555.10	4,646.20	4,739.13	4,833.91	4,930.59	5,029
Eliminate searching day by day to find next available slot for appointment	Cost Avoidance	x	x	x	x	x	x	9,507.49	9,697.64	9,891.60	10,089.43	10,291.22	10,497
Reduce time spent on crew scheduling would allow billing agents to assist others waiting in telephone queue.	Intangible Benefit												

WRC WMU Crew Scheduler

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:							
Save time manually creating meter shut-off/turn-on NorthStar and CAMS work orders (7,674 in FY 2017)	13,266	13,531	13,802	14,078	14,359	14,647	83,682
Save time manually creating North/South WMU NorthStar and CAMS work orders (3,184 in FY 2017)	4,555	4,646	4,739	4,834	4,931	5,029	28,734
Eliminate searching day by day to find next available slot for appointment	9,507	9,698	9,892	10,089	10,291	10,497	59,974
Cost Avoidance Subtotal:	***27,328***	***27,875***	***28,432***	***29,001***	***29,581***	***30,173***	***172,391***
Intangible Benefit:							
Reduce time spent on crew scheduling would allow billing agents to assist others waiting in telephone queue.							
Savings Total:	***27,328***	***27,875***	***28,432***	***29,001***	***29,581***	***30,173***	***172,391***

WRC WMU Crew Scheduler

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			929	165	153,285		X					
IT Hours - System Maintenance	Development Svcs			20	165	3,300		X	X	X	X	X	X
IT Hours - Customer Support	Development Svcs			20	165	3,300		X	X	X	X	X	X
IT Hours - Planned Maintenance	Development Svcs			40	165	6,600			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				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		EA			0							
Package Software - Maintenance	Software		ANN	1	6,000	6,000		X	X	X	X	X	X
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							

WRC WMU Crew Scheduler

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							

WRC WMU Crew Scheduler

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							

WRC WMU Crew Scheduler

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							
Project Staff Training	Training					0							
User Training	Training					0							

WRC WMU Crew Scheduler

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	153,285.00					
IT Hours - System Maintenance	Development Svcs	3,300.00	3,300.00	3,300.00	3,300.00	3,300.00	3,300.00
IT Hours - Customer Support	Development Svcs	3,300.00	3,300.00	3,300.00	3,300.00	3,300.00	3,300.00
IT Hours - Planned Maintenance	Development Svcs		6,600.00		6,600.00		6,600.00
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	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
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						

WRC WMU Crew Scheduler

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						

WRC WMU Crew Scheduler

Return on Investment Analysis

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						

WRC WMU Crew Scheduler

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						
Project Staff Training	Training						
User Training	Training						

WRC WMU Crew Scheduler

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	153,285						153,285
IT Hours - System Maintenance	3,300	3,300	3,300	3,300	3,300	3,300	19,800
IT Hours - Customer Support	3,300	3,300	3,300	3,300	3,300	3,300	19,800
IT Hours - Planned Maintenance		6,600		6,600		6,600	19,800
Package Software - Maintenance	6,000	6,000	6,000	6,000	6,000	6,000	36,000
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	***165,885***	***19,200***	***12,600***	***19,200***	***12,600***	***19,200***	***248,685***
Hardware:							
Hardware Subtotal:							
Software:							
Software Subtotal:							
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	***165,885***	***19,200***	***12,600***	***19,200***	***12,600***	***19,200***	***248,685***

WRC WMU Crew Scheduler

Return on Investment Analysis

Assumptions

Date	Assumption Description
	SAAS Implementation
	10 schedulers, 50 employees that need access
	Researched vendors/applications: Schedule Anywhere by Atlas Business soultions, TSheets , Shiftboard