

Oakland County Department of Information Technology Project Scope and Approach

Project Name: OCME Dictation System Replacement

Project ID: DJ0176DS

| | | | |
|--|--|--|-------------------------|
| Leadership Group: Courts | | | |
| Department: Public Services | | Division: Medical Examiner | |
| Project Sponsor: Casimir Miarka | Date Requested: 3/10/2020 | PM Customer No. 176 | |
| Request Type: | <u><i>New Development</i></u> | <i>Enhancement</i> | <i>Customer Support</i> |
| | <i>Planned System Maintenance or Upgrade</i> | | |
| IT Team Name: eCommerce | | IT Team No: J | |
| Project Manager/Leader: TBD | | | |
| Account Number: 87202 | Account Description: Medical Exam-Cust Supp | Customer Name: Medical Examiner | |
| Grant Funded? Yes <u>No</u> | Mandate? Yes <u>No</u> | Mandate Source: | |

Project Goal

To replace the existing dictation devices and transcription method with a new and improved transcription system, so that the OCME doctors have a reliable means to dictate autopsy notes, an efficient means for the clerks to access the recordings for transcriptions, a secure method of storing the recordings, as well as ensure the integrity of the recorded data.

Business Objective

To gain efficiencies by dictated autopsy recordings being immediately available for clerk transcriptions rather than transfer of cassette tapes, the elimination of re-work to re-record autopsy notes due to device or cassette failure, and cost savings for the repair of devices and purchase of cassette tapes.

Major Deliverables

- Detailed Project Plan
- Application and/or System Requirements
- End User Hardware and Software Requirements Document
- Develop an RFP
- Vendor Selection
- Vendor SOW and Contract
- Technical Design Document
- Technical Architecture Diagram
- Training Plan
- User Acceptance Test Plan
- Implementation Plan
- Training/User Manual(s)

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- Service Level Agreement
- Disaster Recovery Toolkit
- Service Center Knowledge Documents

Approach

- Develop Detailed Project Plan
- Review current business process and conduct needs assessment with customer, ensuring current manual processes are refined and automated.
- Document system requirements
- Develop an RFP
- Select vendor based on vendor demonstrations
- Collaborate with vendor on contract and SOW
- Determine and document system architecture and diagram
- Assess User Hardware and Software Requirements
- Conduct Tech Review
- Order hardware and software if needed
- Develop Implementation Plan
- Develop new system/ Identify and configure vendor software
- 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 new system into production

Research & Analysis

Gartner Research Recommendation

Note: Research was conducted, based on the requirement for ME doctors to record autopsies in their native (non-English) language, if possible. A non-exhaustive list of 11 vendor solutions were provided, which were more on the high-end of the EHR.

Recommendations to find an appropriate vendor: Healthcare provider CIOs planning to implement NLP technologies to digitally optimize and modernize their electronic health record and digital care delivery program:

- **Pursue applications with a proven return on investment, such as computer-assisted coding and real-time transcription, to put your organization on the path**

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to adopting NLP.

- Determine whether the NLP system will be developed in-house or through a third-party vendor solution. For each NLP use case, assess the current maturity of the commercial market against in-house capabilities and the scale of the implementation required.
- Resolve and protect against issues of ethics, legislation, compliance and adoption by ensuring appropriate governance for NLP implementations that is founded on a comprehensive AI governance framework.

Benefits

See *Return on Investment (ROI) Analysis Document*

Impact

Number of Users 12 - Only doctors and clerical use

Divisions Medical Examiner

Leadership Groups Courts

Risk

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

Technical Environment Medium – previously implemented technologies, new requirements.

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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:

| <u>Role:</u> | <u>Name</u> | <u>Hours per Day</u> |
|---------------------|--------------------|-----------------------------|
| Project Sponsor: | Casimir Miarka | As needed |

Facilities

- None

Technical

- None

Funding

- IT

Other

- None

Priority

-

Constraints

- Solution must integrate with a foot pedal system, for hands-free play, rewind and fast forwarding of the recordings, ability to use a headset.

Exclusions

- None

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PROJECT PHASE AUTHORIZATION

| | |
|--|-------------------|
| Phase(s): | |
| Total Estimated Application Services | Hours: 977 |
| Total Estimated Technical Systems | Hours: 164 |
| 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: 1,141 | |
| Preliminary Estimated Development for Future Phases | Hours: | |
| Grand Total Estimated Development | Hours: 1,141 | Cost: \$188,265 |

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PROJECT COMPLETION AUTHORIZATION

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

| OCME Dictation System Replacement - Size Estimate (+/- 10% to 50%) | | | | | |
|--|-------|--------|------------------------------|-----------------|----------------|
| | Type | ID | Task Name | Estimated Hours | Estimate Notes |
| 1 | Phase | 000000 | PROJECT MANAGEMENT | 274 | |
| 2 | Phase | 100000 | DEVELOP RFP & SELECT VENDOR | 68 | |
| 3 | Phase | 200000 | DEFINE BUSINESS REQUIREMENTS | 95 | |
| 4 | Phase | 300000 | DESIGN SYSTEM ARCHITECTURE | 77 | |
| 5 | Phase | 400000 | IMPLEMENT VENDOR APPLICATION | 378 | |
| 6 | Phase | 500000 | IMPLEMENTATION PHASE | 205 | |
| 7 | Phase | 600000 | POST IMPLEMENTATION SUPPORT | 44 | |
| 8 | | | | | |
| | | | | | |
| 1 | | | | 1,141 | |

Oakland County -- OCME Dictation System Replacement

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: | 1,746 | 1,771 | 1,798 | 1,824 | 1,852 | 1,881 | 10,872 |
| Costs: | | | | | | | |
| Development Services Subtotal: | 193,215 | 9,166 | 5,049 | 9,350 | 5,151 | 9,538 | 231,469 |
| Hardware Subtotal: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Software Subtotal: | 2,690 | 100 | 101 | 102 | 103 | 104 | 3,200 |
| 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 | 1,746 | 1,771 | 1,798 | 1,824 | 1,852 | 1,881 | 10,872 |
| Annual Total Costs | 195,905 | 9,266 | 5,150 | 9,452 | 5,254 | 9,642 | 234,669 |
| Annual Return on Investment | (194,159) | (7,494) | (3,353) | (7,628) | (3,402) | (7,761) | (223,797) |
| Annual Costs/Savings Ratio | 11220.20% | 523.08% | 286.53% | 518.07% | 283.67% | 512.67% | |
| Project Cumulative Statistics: | | | | | | | |
| Cumulative Total Savings | 1,746 | 3,517 | 5,315 | 7,139 | 8,992 | 10,872 | 10,872 |
| Cumulative Total Costs | 195,905 | 205,170 | 210,321 | 219,773 | 225,027 | 234,669 | 234,669 |
| Cumulative Return on Investment | (194,159) | (201,653) | (205,006) | (212,634) | (216,035) | (223,797) | (223,797) |
| Cumulative Cost/Savings Ratio | 11220.20% | 5833.05% | 3957.19% | 3078.33% | 2502.65% | 2158.42% | 2158.42% |
| Year Positive Payback Achieved State or Federal Mandate? | | | | | | | NO PAYBACK |
| 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 | Affects Project ROI? | | | | | | Potential Savings Extensions | | | | | |
|--|--------------------------|----------------------|----|----|----|----|----|------------------------------|--------|--------|--------|--------|-----|
| | | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
| Repair or Replacement of devices | Cost Avoidance | X | X | X | X | X | X | 900.00 | 900.00 | 900.00 | 900.00 | 900.00 | 900 |
| Rework from lost transcriptions due to hardware failure. | Cost Avoidance | X | X | X | X | X | X | 846.00 | 871.38 | 897.52 | 924.45 | 952.18 | 981 |
| Inability to save transcription on server | Intangible Benefit | | | | | | | | | | | | |
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Return on Investment Analysis

Savings Summary

| Benefit/Savings Description | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Total |
|--|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Tangible Benefit: | | | | | | | |
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| | | | | | | | |
| <i>Tangible Benefits Subtotal:</i> | | | | | | | |
| Cost Avoidance: | | | | | | | |
| Repair or Replacement of devices | 900 | 900 | 900 | 900 | 900 | 900 | 5,400 |
| Rework from lost transcriptions due to hardware failure. | 846 | 871 | 898 | 924 | 952 | 981 | 5,472 |
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| | | | | | | | |
| <i>Cost Avoidance Subtotal:</i> | 1,746 | 1,771 | 1,798 | 1,824 | 1,852 | 1,881 | 10,872 |
| Intangible Benefit: | | | | | | | |
| Inability to save transcription on server | | | | | | | |
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| | | | | | | | |
| Savings Total: | 1,746 | 1,771 | 1,798 | 1,824 | 1,852 | 1,881 | 10,872 |

Oakland County -- OCME Dictation System Replacement
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 | 1,141 | 165 | 188,265 | 1.010 | x | | | | | | |
| IT Hours - System Maintenance | Development Svcs | | HR | 10 | 165 | 1,650 | 1.010 | x | x | x | x | x | x | x |
| IT Hours - Customer Support | Development Svcs | | HR | 20 | 165 | 3,300 | 1.010 | x | x | x | x | x | x | x |
| IT Hours - Planned Maintenance | Development Svcs | | HR | 25 | 165 | 4,125 | 1.010 | | 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 | | | | 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 | | EA | 1 | 2,591 | 2,591 | 1.010 | x | | | | | | |
| Package Software - Maintenance | Software | | ANN | 1 | 99 | 99 | 1.010 | x | 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 | | | | | | | | |

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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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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 Existing 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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|---|-----------------------|--------------------------------|-----------|-------|---------------|------------|-------------------|----------------------|----|----|----|----|----|--|--|
| | | | | | | | | 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 | | | | | | | | | |

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Cost Detail

| Cost Description | Project Cost Category | Potential Cost Extensions | | | | | |
|---|-----------------------|---------------------------|----------|----------|----------|----------|----------|
| | | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
| IT Hours - New Development | Development Svcs | 188,265.00 | | | | | |
| IT Hours - System Maintenance | Development Svcs | 1,650.00 | 1,666.50 | 1,683.17 | 1,700.00 | 1,717.00 | 1,734.17 |
| IT Hours - Customer Support | Development Svcs | 3,300.00 | 3,333.00 | 3,366.33 | 3,399.99 | 3,433.99 | 3,468.33 |
| IT Hours - Planned Maintenance | Development Svcs | | 4,166.25 | | 4,249.99 | | 4,335.42 |
| 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 | 2,590.67 | | | | | |
| Package Software - Maintenance | Software | 99.00 | 99.99 | 100.99 | 102.00 | 103.02 | 104.05 |
| 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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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 Existing 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 -- OCME Dictation System Replacement
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 -- OCME Dictation System Replacement
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 | 188,265 | | | | | | 188,265 |
| IT Hours - System Maintenance | 1,650 | 1,667 | 1,683 | 1,700 | 1,717 | 1,734 | 10,151 |
| IT Hours - Customer Support | 3,300 | 3,333 | 3,366 | 3,400 | 3,434 | 3,468 | 20,302 |
| IT Hours - Planned Maintenance | | 4,166 | | 4,250 | | 4,335 | 12,752 |
| User Hours - New Development | | | | | | | |
| User Hours - PTNE/OT | | | | | | | |
| Contractor Professional Services | | | | | | | |
| <i>Development Services Subtotal:</i> | 193,215 | 9,166 | 5,049 | 9,350 | 5,151 | 9,538 | 231,469 |
| Hardware: | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| <i>Hardware Subtotal:</i> | | | | | | | |
| Software: | | | | | | | |
| Package Software - Acquisition | 2,591 | | | | | | 2,591 |
| Package Software - Maintenance | 99 | 100 | 101 | 102 | 103 | 104 | 609 |
| | | | | | | | |
| | | | | | | | |
| <i>Software Subtotal:</i> | 2,690 | 100 | 101 | 102 | 103 | 104 | 3,200 |
| Infrastructure: | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| <i>Infrastructure Subtotal</i> | | | | | | | |
| Training: | | | | | | | |
| | | | | | | | |
| <i>Training Subtotal:</i> | | | | | | | |
| Other: | | | | | | | |
| | | | | | | | |
| <i>Other Subtotal:</i> | | | | | | | |
| Costs Total: | 195,905 | 9,266 | 5,150 | 9,452 | 5,254 | 9,642 | 234,669 |

