Maine Quality Choices
Integrated Data Application
Development Requirements

Enter Scenario Selection: 2 **Full Implementation**

Component Requirements / Functional Requirements	Phase / Ph. Totals	UI Module	Queries / Reports	Workflow / Processes	Classes - Simple	Classes - Medium	Classes - Complex	Adapters	Package Interfaces	Package Integration	Complex Package	DB Entities / components	Comments/Key Assumptions
Scenario 1 - Minimum Implementation:	96	7	6	15	4	4	5	3	20	5	2	25	
Scenario 2 - Incremental for Full Implementation:	193	13	46	63	6	14	18	6	16	3	0	8	
Totals for selection - Scenario 2:	289	20	52	78	10	18	23	9	36	8	2	33	
High Level Architectural Overview	1												
IDA LOGICAL ARCHITECTURE (Scenario 1)	1	5							20	4	2	4	Guess-timate general purpose admin infrastructure GUI. Guess-timate the DBMS specific adapters for a pilot (X 2 for pbu/sub). Counting the COTS component integrations - EAI & ETL package integrations are considered complex. Counting representation of data categories as views or partitions.
IDA LOGICAL ARCHITECTURE (Scenario 2)	2							6	16	3		2	
IDA ARCHITECTURAL ELEMENTS	1			7								7	Counting the high level processes to reflect generic workflow services. Counting data objects as views or partitions. Classes are counted below.
SYSTEM-WIDE ARCHITECTURAL PRINCIPALS	1												
IDA Component Classes	1												"Simple" is assumed to be a wrapper for services from COTS components or non-IDA specific requirements, "Complex" classes combine IDA specific with multi function with multiple COTS integration requirements
IDA CORE DATA	1					1						7	
MEMORANDUM OF UNDERSTANDING (MOU)	1						1					7	
DATA SOURCE INTERFACE	1				1			2					Two data sources for phase 1
SUBSCRIBER INTERFACE	1						1	1					One subscriber adapter for phase 1
AGGREGATION - Scenario 1	1												
AGGREGATION - Scenario 2	2						1					2	
SCHEDULING AND WORKFLOW - Scenario 1	1												
SCHEDULING AND WORKFLOW - Scenario 2	2				1		1					2	
GUI - Scenario 1	1												
GUI - Scenario 2	2						1						
SECURITY	1				1					1			
STORAGE MANAGEMENT (STORAGE, STAGING, DELIVERY) - Scenario 1	1												
STORAGE MANAGEMENT (STORAGE, STAGING, DELIVERY) - Scenario 2	2				0	3						1	
DYNAMIC TRANSFORMATION - Scenario 1	1												
DYNAMIC TRANSFORMATION - Scenario 2	2					1						1	
CONSOLIDATION, DE-DUPLICATION AND CLEANSING	1				1	1	1						
DOCUMENT MANAGEMENT - Scenario 1	1												
DOCUMENT MANAGEMENT - Scenario 2	2					1							
INFRASTRUCTURE MONITORING AND MANAGEMENT - Scenario 1	1												
INFRASTRUCTURE MONITORING AND MANAGEMENT - Scenario 2	2					2							

Maine Quality Choices
Integrated Data Application
Development Requirements

Component Requirements Functional Requirements	Phase / Ph. Totals	U/I Module	Queries / Reports	Workflow / Processes	Classes - Simple	Classes - Medium	Classes - Complex	Adapters	Package Interfaces	Package Integration	Complex Package	DB Entities / components	Comments/Key Assumptions
End-User Process Flows	1												If "GUI" is associated, then assume an average number of required screens. Assume queries/reports in proportion to process steps. Count each step as a workflow / process as a rough guage of complexity. Characterize key technical challenges by recounting indicated "critical class" to reflect the specialized integration requirement.
REGISTRATION OF DATA SOURCES TO BE PUBLISHED - Scenario 1	1	1	2	2	1	1	1						
REGISTRATION OF DATA SOURCES TO BE PUBLISHED - Scenario 2	2	2	6	7	1	2	1						
ADMINISTRATION OF MOU AND ASSOCIATED RULES - Scenario 1	1	1	4	6		1	1						
ADMINISTRATION OF MOU AND ASSOCIATED RULES - Scenario 2	2	2	8	8		2	3						
ADMINISTRATION OF RELEVANT DOCUMENTATION AND GUIDELINES - Scenario 1	1												
ADMINISTRATION OF RELEVANT DOCUMENTATION AND GUIDELINES - Scenario 2	2	3	5	8		1	2						
MODIFY AND USE AN EXISTING APPLICATION TO PARTICIPATE IN IDA - Scenario 1	1												
MODIFY AND USE AN EXISTING APPLICATION TO PARTICIPATE IN IDA - Scenario 2	2	3	10	14	1		4						
DELIVERY AND FULFILLMENT OF DATA FOR BI OR APPLICATION - Scenario 1	1												
DELIVERY AND FULFILLMENT OF DATA FOR BI OR APPLICATION - Scenario 2	2		12	18	3	2	5						
CLIENT INDEX MAINTENANCE - Scenario 1	1												
CLIENT INDEX MAINTENANCE - Scenario 2	2	3	5	8									
IDA Preliminary Data Model	n/a												Entities / components are counted above.

Development Estimation Worksheet

Scenario 2 - Full Implementation

Duration: 37 weeks **Start: Mon 3/3/03** **Budget: $4.07 M**
Total Work Effort: 2,963 days **Finish: Tue 11/18/03** **Daily rate: $1,373**

1. BASELINE DEVELOPMENT LEVEL OF EFFORT CALCULATION

A. COUNTS & METRICS

Integrated Data Application Implementation Requirements	Component Count (from Overview)	Development Metrics (days)	LOE (days)	% LOE
U/I Module	20	2.0	40	7%
Queries / Reports	52	2.0	104	19%
Workflow / Processes	78	1.0	78	14%
Classes - Simple	10	1.0	10	2%
Classes - Medium	18	2.0	36	6%
Classes - Complex	23	4.0	92	16%
Adapters	9	3.0	27	5%
Package Interfaces	36	2.0	72	13%
Package Integration	8	5.0	40	7%
Complex Package	2	15.0	30	5%
DB Entities / components	33	1.0	33	6%
Subtotal - Developer Staff Days:			**562**	100%

B. RISK AND ASSUMPTION ADJUSTMENTS

Quantify the uncertainty of key risks:	Allocation	10%
COTS/custom integration complexity	Staff days	56
???		
Quantify key assumptions:	Allocation	15%
User, technical, and administrative documentation	Staff days	84
???		
Adjusted Subtotal Developer Staff Days		**703**

C. IN-LINE & SEQUENTIAL ACTIVITY CALCULATION

In-line activities that augment heads-down development efforts, as a percent of development effort, such as:	Allocation	10%
	Staff days	70
Sick/Vacation/Holiday (assume 10% of total LOE)		
Progress checkpoints, road shows, focus group sessions		
Project, technical, and code reviews		
Builds, build process and build testing		
System Optimization/Performance Tuning		
Technical documentation & other deliverables		
Sequential, or dependent, activities that must be completed before or after core development activitities, such as:	Allocation	10%
	Staff days	70
Additional scoping sessions		
Development & test environment setup		
Development ramp / training		
Coding, documentation, & other process standards		
Developing regression test cases		
Integration Testing & Performance Tuning (incl builds)		
Pilot & production environment setup		
User training, Online Help & User Documentation QA		
Team days		
Baseline Total Implementation Level of Effort (Days):		**843**

Comments/Key Assumptions

This estimate worksheet does not include hardware and software procurement budgets

Metrics **exclude** requirements definition and business and technical design, and **include** detailed unit implementation design, design review and iteration, coding/integration, code/integration review and iteration, unit testing, unit debugging, module integration testing, module debugging & build acceptance

Process counts are counted at granular level on the [Requirements] tab, so average metric is reduced
Note that the counts for classes is duplicated in the current approach on the [Requirements] tab so the average metric is reduced

It is useful to keep these categories separate for later planning purposes

Development Estimation Worksheet

Scenario 2 - Full Implementation

Comments/Key Assumptions

2. DURATION & CORE IMPLEMENTATION STAFFING CALCULATION

Scenario: 2 **Full Implementation** **Phase 2**

Draft Organizational Allocation	Counts	LOE Adj'd for in-line & seq activities	Staff	Duration (days)
U/I Module	20	60	2.0	30
Queries / Reports	52	156	3.0	52
Workflow / Processes	78	117	2.5	47
Classes - Simple	10	15	1.0	15
Classes - Medium	18	54	1.0	54
Classes - Complex	23	138	2.5	55
Adapters	9	41	2.0	20
Package Interfaces	36	108	3.5	31
Package Integration	8	60	2.0	30
Complex Package	2	45	3.0	15
DB Entities / components	33	50	2.0	25

Manually enter staff allocations to "best fit" the duration days - note that an automatic adjustment is done below to reallocate staff for parallel opportunities

Subtotals:	843	25	55
Adjustment for parallel allocations:	509	(9)	
Adjusted core implementation team staff count:		16	

This calculation assumes staff can shift to other tracks to make up slack created when one track finishes earlier than another

3. SUPPORTING STAFF CALCULATION

Other Resources	Number	% Time	Resource Allocation	Total Days
Arch	1	100%	1.0	55
PM	1	100%	1.0	55
APM / QA Lead / Trainer	1	100%	1.0	55
Infrastructure specialist	1	50%	0.5	28
Database specialist	1	100%	1.0	55
Subject Matter Expert	0	100%	-	-
Director of PM	1	50%	0.5	28
Director Of Arch	1	100%	1.0	55
Business Lead / VP	1	20%	0.2	11

Subtotal - Other Staff Days:	6.2	342

4. TOP DOWN TOTAL PROJECT PHASE CALCULATION

Total Development Phase Staff Days:	1,185
Total Development Team Size:	22
Baseline Development Phase Duration (weeks):	11

Phase	Allocation to Total	Person Days	Average FTE	Duration (weeks)
Requirements Definition	5%	148	6	5
Business & Technical Design	25%	741	16	9
Integration & Development	40%	1,185	22	11
Quality Assurance	25%	741	18	8
Cutover & Pilot	5%	148	8	4
Total:	100%	2,963	16	37

This project is patterned for hybrid package/custom implementation

A package implementation assumption puts weight on integration phase, less on design and QA

Development values set baseline for other phases

TRUE

Maine Quality Choices
Integrated Data Application
Oversight Staffing

Scenario selected: 2 Full Implementation

Staffing Commitment (FTE) / Staff Category	Phase / Ph. Totals	Steering Committee	Project Management	Project Staff	Technical Consultant	Comments/Key Assumptions
Scenario 1 - Minimum State FTE Staffing	**10.0**	**4.7**	**1.0**	**3.2**	**1.1**	
Scenario 2 - Incremental FTE for Full Implementation:	**13.6**	**4.0**	**-**	**8.5**	**1.1**	
Totals for Full Implementation:	**23.6**	**8.7**	**1.0**	**11.7**	**2.2**	
Operational Activities FTE Count:	**11.4**	**2.0**	**2.0**	**6.4**	**1.0**	
Steering Committee						
The Steering Committee will be responsible for the overall direction of the project. Committee responsibilities will include procurement, oversight, final system acceptance, and issue escalation and decision-making						
The Committee will consist of the following members:						
· Executive	**1**	**0.1**				
· Sponsoring department	**1**	**2.5**			**0.2**	
· Pilot integration department(s) - Scenario 1	**1**	**1.0**				
· Incremental pilot integration department(s) - Scenario 2	**2**	**4.0**				
· State technical services representation - Scenario 1	**1**	**0.4**				
· Incremental State technical services representation - Scenario 2	**1**	**0.8**				
Project Management						
The project manager will be responsible for direction of all project staff and contractors, contract administration, monitoring adherence to schedule and budget, coordination of the interaction between contractors, State staff, and Federal oversight staff.	**1**		**1.0**		**0.5**	
Incremental PM & APM staff - Scenario 2:	**2**			**1.0**	**0.5**	
DBA & System Admin Staff						
The Data Base Administrators and/or System Administrators of the publishing and subscribing data systems being integrated in each phase should have formal allocation of time to report to and coordinate integration efforts with the Project Manager	**1**			**1.0**	**0.2**	
Incremental DBA & Sys Admin staff - Scenario 2	**2**			**3.0**	**0.3**	

Maine Quality Choices
Integrated Data Application
Oversight Staffing

Staffing Commitment (FTE) / Staff Category	Phase / Ph. Totals	Steering Committee	Project Management	Project Staff	Technical Consultant		Comments/Key Assumptions
Users / User Acceptance Testing							
Allocation will be needed from members of the offices that will be piloting the solution, to review and approve deliverables throughout the project lifecycle, including being briefed on the progress of the vendor selection phase, and from requirements definition and design, through implementation (via progress checkpoints), and with a significant allocation in Q/A through rollout.	1			2.0	0.1		
Incremental Users / User Acceptance Testing staff - Scenario 2	2			4.0	0.2		
Other State Staff							
Other State staff will participate directly in the design and testing of the new system components. This staff will be assigned to ensure those requirements of program policy, operations, financial management and technical infrastructure are adequately represented in the design and construction of the new systems. Supplemental support from a consulting contractor may be committed at critical stages of the implementation	1			0.2	0.1		
Incremental Other State staff - Scenario 2	2			0.5	0.1		
Operational Activities - Scenario 1	3						
Content	3		0.5	0.5			
Registration	3			1.0			
Administration	3			0.5			
Oversight	3	1.0			0.5		
Infrastructure Maintenance & Operations	3		0.5				
Maintenance	3			0.5			
Operations	3			0.5			
Operational Activities - Scenario 2 Incremental Staffing	4						
Content	4		0.5	0.5			
Registration	4			2.0			
Administration	4			0.5			
Oversight	4	1.0			0.5		
Infrastructure Maintenance & Operations	4		0.5				
Maintenance	4			0.2			
Operations	4			0.2			

Maine Quality Choices
Integrated Data Application
Hardware & Software

Hardware & Software Costs

Hardware (including OS)	*Pilot Specifications*		*Pilot Retail*	*Production Specifications*	*Production Retail*
Database Server	UNIX 4 X 900MH	10GB X 500GB (array)	$150,000	2 X	$300,000
EAI Server	UNIX 4 X 900MH	10GB X 50GB	$100,000	2 X	$200,000
ETL Server	UNIX 2 X 900MH	2GB X 100GB	$30,000	3 X	$90,000
Workflow Server	Wintel 2 X P4 2.6GH	2GB X 20GB	$10,000	1 X	$10,000
Application Server	Wintel 2 X P4 2.6GH	2GB X 50GB	$15,000	2 X	$30,000
Firewall / Routers / Switches			$5,000	2 X	$10,000
Total			$310,000		$640,000

Software	*Pilot Specifications*	*Pilot Retail*	*Production Specifications*	*Production Retail*
DBMS		$50,000	4 X	$200,000
EAI		$50,000	4 X	$125,000
ETL		$50,000	4 X	$125,000
Workflow/Scheduling		$20,000	2 X	$40,000
Application Server		$20,000	2 X	$40,000
Messaging		$10,000	2 X	$20,000
COTS Security		$10,000	2 X	$20,000
Document Management		$10,000	2 X	$20,000
Development/Office		$10,000	2 X	$20,000
Total		$230,000		$610,000

Facilities / Data Center	*Pilot Specifications*	*Pilot Retail*	*Production Specifications*	*Production Retail*
UPS / electrical		$10,000	2 X	$20,000
HVAC		$2,500	2 X	$5,000
Physical security		$2,500	2 X	$5,000
Total		$15,000		$30,000

Totals	*Expected Disc*	*Pilot Budget*	*Expected Disc*	*Production Budget*
Hardware Total	15%	$263,500	33%	$428,800
Software Total	15%	$195,500	33%	$408,700
Facilities Total	0%	$15,000	0%	$30,000
Total	round to 0	$474,000		$867,500

Totals for Link to Estimation Summary Full Implementation Round Totals to nearest 1,000 Annual Maintenance 12%	
Totals	
Hardware Total	$429,000
Software Total	$409,000
Facilities Total	$30,000
Total	$868,000
Annual Hardware	$51,000
Annual Software	$49,000

Maine Quality Choices
Integrated Data Application
Estimate Summary

Project Phase Summary and Related Costs Estimate

Scenario 2 - Full Implementation **Start** Mon, 03-03-03

Full Implementation (Vendor)	Blended Rate	Days	Team Size	Weeks	End
Requirements Definition		148	6	5	Tue, 04-08-03
Business & Technical Design		741	16	9	Tue, 06-10-03
Integration & Development		1,185	22	11	Tue, 08-26-03
Quality Assurance		741	18	8	Tue, 10-21-03
Cutover & Pilot		148	8	4	Tue, 11-18-03
Totals:	1,373	2,963	16	37	$4.1 M
				9.3 months	

Implementation Activities (State)	Blended Rate	Days	Ave. Team	Weeks	End
Full Implementation	568	4,370	24	37	Wed, 11-17-04
Totals:		4,370		37	$2.5 M

Operations, Maintenance & Support (Vendor)	Blended Rate	Days	Ave. Team	Weeks	End
Initial Term	1,320	655	3	52	Wed, 11-17-04
Totals:		655		52	$0.9 M

Operations, Maintenance & Support (State)	Blended Rate	Days	Ave. Team	Weeks	End
Initial Term	568	2,725	10	52	Wed, 11-17-04
Totals:		2,725		52	$1.5 M

Hardware, Software, Supplies & Expenses	Cost	Annual	Years	Total
Development/Test platform hardware	$ 114,750	$12,750	1.7	$0.137 M
Production platform hardware	$ 344,250	$38,250	1.7	$0.410 M
Licensed software	$ 409,000	$49,000	1.7	$0.493 M
Supplies & expenses		$210,000	1.7	$0.361 M
Total:				$1.4 M

TOTAL ESTIMATED BUDGET: $10.4 M

State & Federal Budget Allocation Estimate

State Medicaid Cost Allocation Breakdown Program	Total Expenditures SFY Ending 6/01		% of total
Medicaid	3,000,000		97.500%
BDS	19,230		0.625%
DOC	19,230		0.625%
DOE	19,230		0.625%
Labor	19,230		0.625%
Total	3,076,920		100%

Variance: +20%

Full Implementation Cost Summary:	Low	High
Vendor Development Costs	$4.0 M	$4.8 M
State Staff Development Costs	$2.4 M	$2.9 M
Vendor Operations Costs	$0.8 M	$1.0 M
State Staff Operations Costs	$1.5 M	$1.8 M
Total Labor Costs	$8.7 M	$10.5 M
Total Hardware, Software & Expenses	$1.4 M	$1.7 M
Total Project Estimate Costs	$10.1 M	$12.2 M
Total State Costs Net of Estimated FFP	$1.8 M	$2.1 M

Fully Allocated State Staff Daily Cost:

Leadership		Staff		Consultant	
FTE	Rate	FTE	Rate	FTE	Rate
9.7	720	11.7	360	2.2	1,000

Vendor Staff Daily Rate:

	Leadership		Engineering	
Scenario:	FTE	Rate	FTE	Rate
1	0.5	1,800	1	1,200
2	0.5	1,800	2	1,200

Leadership		Staff		Consultant	
FTE	Rate	FTE	Rate	FTE	Rate
4.0	720	6.4	360	1.0	1,000

75% Percentage allocation Production vs. Development

per diem: $20 | Total Days: 10,713

Maine Quality Choices
Integrated Data Application
Estimate Summary

Budget Summary

Phase and Category Summary Phase	Vendor Costs	CT Staff	HW/SW	Supplies	Total	
Implementaion & Operations Totals:	4.93	4.03	1.04	0.36	$10.4 M	
Totals:	**$4.9 M**	**$4.0 M**	**$1.0 M**	**$0.4 M**	**$10.4 M**	TRUE

DSS Data Warehouse Medicaid cost allocation							Costs subject to FFP:	$10.1 M	
	Medicaid Allocated Development Costs				Medicaid Allocated Operational Costs				
Phase	Vendor Costs	State Costs	HW	Supplies	Vendor Costs	State Costs	Hw/Sw	Supplies	Totals
Initial Term	$3.97	$2.42	$0.13	$0.24	$0.84	$1.51	$0.88	$0.11	$10.10
Totals:	$3.97	$2.42	$0.13	$0.24	$0.84	$1.51	$0.88	$0.11	$10.10 TRUE

Note: only dev HW qualifies for 90% FFP

Note: all SW in this column is Licensed

CMS FFP Budget Projection						
CMS Reimbursement %	90%		75%			
Phase	FFP Devel Costs	90% FFP Budget	FFP Ops Costs	75% FFP Budget	Total Reimb	Totals
Initial Term	6.76	6.08	3.34	2.51	$8.6 M	10.10 TRUE
Totals:	**6.76**	**$6.1 M**	**3.34**	**$2.5 M**	**$8.6 M**	8.59 TRUE

State Budget Projection Phase	Vendor Costs	CT Staff	HW/SW	Supplies	Total	
Initial Term	0.73	0.72	0.26	0.06	$1.8 M	
Totals:	**$0.7 M**	**$0.7 M**	**$0.3 M**	**$0.1 M**	**$1.8 M**	TRUE

TOTAL ESTIMATED BUDGET: **$10.4 M** TRUE