



Technical Proposal
Solutions from Fairfax Software
For
State of Indiana
Request for Proposal 21-1788
for
Single Imaging Vendor

ORIGINAL

Due 3:00 PM EST
Friday, August 7, 2020

Submitted by:
Fairfax Software
2005 Pan Am Circle, Suite 110
Tampa, FL 33607

Fairfax Software Contact:
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877-627-8325

In addition to completing Attachment F, each Respondent should also prepare a Narrative Proposal. Narrative Proposals must be structured and numbered according to the RFP section numbers and headers presented in the following table. Responses in each section must be addressed in the order given. Since the evaluators have already read the Scope of Work for the services described, it is not necessary for the Respondent to repeat the exact language, nor to present a paraphrased version. The language of the Narrative Proposal should be straightforward and limited to facts, solutions, and plans of proposed action. The usage of technical language should be minimized and used only to describe a technical process.

Narrative Proposals will be evaluated based on the Respondent's distinctive plan for meeting the Scope of Work defined for this RFP.

1.0 Project Management Narrative Proposal

- Respondents must describe their overall approach to all aspects of project management described in Section 1.4.3 Project Management and the Project Management requirements described in Attachment F.
- Respondents must provide a draft Project Schedule for all activities required to complete solution implementation and go-live, including draft and final deliverable delivery dates.
- Respondents must describe their proposed project organization and staffing in detail. Project organization and staff should be described for the initial Implementation and ongoing Operations phases separately. The following items should be submitted:
 - An organization chart with a description of the purpose and function of each organizational unit.
 - Resumes for, at a minimum, the Key Staff identified in Section 1.4.3 Project Management.
 - Issue escalation paths identified for each of the Key Staff positions as described in Section 1.4.3 Project Management.
- A list and description of deliverables by phase.
- Proposed Issue and Risk Management processes and procedures.

Fairfax Software Response

Overall Approach to Project Management

The Fairfax Software project planning and implementation methodology aligns with the DOR requirements for project execution from analysis, design, development and implementation to rollout to production support. Our approach is designed for the proven and proper implementation of document management and forms/remittance processing software implementations and provides a structure for successful project completion.

Fairfax Software's project planning and implementation methodology is based on industry best practices

and established standards derived from the PMI Institute’s Project Management Body of Knowledge (PMBOK). We have adopted and deployed these strategies as part of our project development life cycle and they have proven successful on over twenty-one (21) state tax and revenue implementations which are similar in scope and nature to that of the DOR. All of our project managers follow this method of implementation, and as such, is well understood throughout the Fairfax Software organization. Fairfax Software firmly believes in a milestone-based approach to project execution.

Each milestone will be crowned by a deliverable that certifies its execution. Our approach of timely execution through measured project deliverables will produce a number of project deliverables as progress is being made on the project and in strict accordance with milestones set forth and agreed upon as part of the project deliverables defined in the RFP.

Fairfax Software employs the finest project management talent. Our project managers are experts in the management and successful implementation of systems covering a wide range of scope and complexity to meet our customers’ expectations. Our project managers are seasoned professionals, whose background covers a blend of technical and business experience and subject matter expertise, including scheduling activities and resources, risk management, quality control, contingency planning, issue management and organization change.

Each project phase consists of initiating, planning, executing, controlling/monitoring, and closing phases to provide guidance to the process. Within each of these, specific tasks enacted upon by the Fairfax Software team or provided deliverables ensure a defined approach to the execution of the project. Regardless of size of the project or phases, the methods used by Fairfax Software team allow proper management, planning, and execution to the overall goals and project implementation. The overall approach is illustrated below.

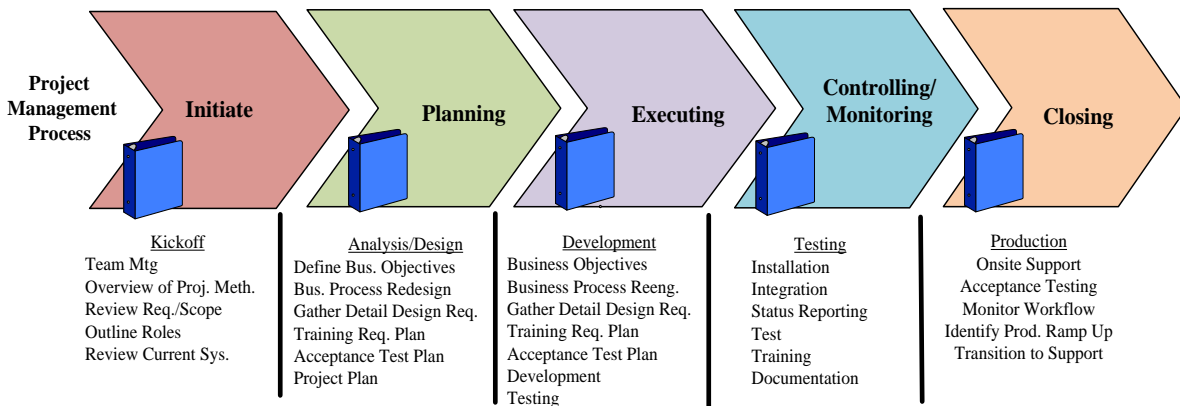


Figure 1 - Fairfax Software Implementation Methodology

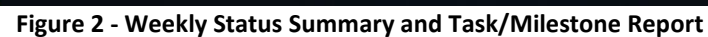
Throughout the lifecycle of the project, Fairfax Software’s Project Manager will monitor and provide weekly status reporting to all stakeholders. Our project reporting is extensive. All facets of tracking tasks, risks, issues, decisioning, change control and milestones are tracked and reported. Through weekly status meetings the Fairfax Software Project Manager will provide our Weekly Project Status report prior to each weekly status meeting.

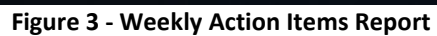
The Weekly Project Status report is a MS Excel document that tracks Weekly Status Summary and Detail,

Action Items and Decisioning, Risk Registry and actions for resolving and Change Control Log. In addition to the Weekly Status Report and within Fairfax Software's Implementation Methodology we support producing the following deliverables within 5 days of project execution:

- Work Breakdown Structure
- Schedule Management Plan
- Scope Management Plan
- Quality Management Plan
- Staffing Management Plan
- Communication Management Plan
- Risk Management Plan
- Change Management Plan,
- Release Management Plan
- Requirements Traceability Matrix
- Testing Log
- Lessons Learned Registry
- Project Phase Audit/Gate Check
- Project or Phase Close Out Report

The following provides screen shot examples of the Weekly Project Status report. In many cases the use drop-down selection criteria are available to easily select the appropriate information. The Weekly Project Status report, along with the Project Plan are used during the weekly status calls with stakeholders. Minutes of the Weekly Project Status calls are documented by the Fairfax Software Project Manager and reviewed in subsequent weekly meetings. For each meeting, the Fairfax Software Project Manager will prepare an agenda for the meeting.





EXAMPLE Status Report - Excel

Mike Minter

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Change Number	Description of Change	Priority	Date Requested	Requested By	Status: (Evaluating, Pending, Approved, Rejected)	Date Resolved	Resolution/Comments
CR0001							
CR0002							
CR0003							
CR0004							
CR0005							
CR0006							
CR0007							
CR0008							
CR0009							
CR0010							

Weekly Status Summary Action Items Risk Register **Change Control**

Figure 4 - Weekly Change Control Log Report

The following provides Fairfax Software's Preliminary Project Plan based upon the scope, tasks, phases and deliverables as outlined within the RFP as well as our best practices for implementations which are similar to DOR for additional functions and processes necessary for a robust, comprehensive, integrated, and modernized document management and forms/remittance processing and data capture solution.

Draft Project Schedule

Indiana Department of Revenue						
ID	Task Name	Duration	Start	Finish	Pre	Resource Names
1	Indiana Department of Revenue	284 days	Mon 11/2/20	Wed 12/8/21		
2	Contract Signed	0 days	Mon 11/2/20	Mon 11/2/20		
3	Project Initiation	1 day	Mon 11/2/20	Mon 11/2/20		
4	Introductions/Kick Off	1 day	Mon 11/2/20	Mon 11/2/20	2	FFX PM/INDOR PM
5	Provide list of personnel to access	1 day	Mon 11/2/20	Mon 11/2/20	2	FFX PM
6	Project Management Plans	13 days	Mon 11/2/20	Wed 11/18/20		
7	Project Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
8	Schedule Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
9	Scope Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
10	Quality Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
11	Staffing Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
12	Communication Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
13	Risk Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
14	Change Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
15	Release Management Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
16	Implementation Plan	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX PM
17	Prepare and deliver training manuals	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX BA
18	Prepare and deliver technical manuals	5 days	Mon 11/2/20	Fri 11/6/20	2	FFX BA
19	Review of Project Management Plans	8 days	Mon 11/9/20	Wed 11/18/20		
20	Deliver Project Management Plans to INDOR	1 day	Mon 11/9/20	Mon 11/9/20	16	FFX PM
21	INDOR Review of Project Management Plans	5 days	Tue 11/10/20	Mon 11/16/20	20	INDOR PM
22	Update Project Management Plans	1 day	Tue 11/17/20	Tue 11/17/20	21	FFX PM
23	Final approval and Project Management Plans	1 day	Wed 11/18/20	Wed 11/18/20	22	INDOR PM
24	Hardware and Software Installation	44 days	Thu 11/19/20	Mon 1/25/21	2	
25	Project Environments Readiness	44 days	Thu 11/19/20	Mon 1/25/21		
26	Hardware Validation	5 days	Thu 11/19/20	Wed 11/25/20	6	FFX PM/FFX Installation Engineer
27	DEV: Servers and Storage Ready	13 days	Fri 11/27/20	Tue 12/15/20		
28	New Dev Environment Built	5 days	Fri 11/27/20	Thu 12/3/20	26	INDOR
29	Installation Checklist Documentation	1 day	Fri 12/4/20	Fri 12/4/20	28	FFX PM
30	Schedule Install Dates with Customer	1 day	Mon 12/7/20	Mon 12/7/20	29	FFX Installation Engineer
31	Set up Environment system install	1 day	Tue 12/8/20	Tue 12/8/20	30	FFX Installation Engineer
32	QM Software Install on Dev	5 days	Wed 12/9/20	Tue 12/15/20	31	FFX Installation Engineer
33	Test: Servers and Storage Ready	13 days	Wed 12/16/20	Wed 1/6/21		
34	New Test Environment Built	5 days	Wed 12/16/20	Tue 12/22/20	32	INDOR
35	Installation Checklist Documentation	1 day	Wed 12/23/20	Wed 12/23/20	34	FFX PM
36	Schedule Install Dates with Customer	1 day	Mon 12/28/20	Mon 12/28/20	35	FFX Installation Engineer
37	Set up Environment system install	1 day	Tue 12/29/20	Tue 12/29/20	36	FFX Installation Engineer

38	QM Software Install on Test	5 days	Wed 12/30/20	Wed 1/6/21	37	FFX Installation Engineer
39	PROD Servers and Storage Ready	13 days	Thu 1/7/21	Mon 1/25/21		
40	New Prod Environment Built	5 days	Thu 1/7/21	Wed 1/13/21	33	INDOR
41	Installation Checklist Documentation	1 day	Thu 1/14/21	Thu 1/14/21	40	FFX PM
42	Schedule Install Dates with Customer	1 day	Fri 1/15/21	Fri 1/15/21	41	FFX Installation Engineer
43	Set up Environment system install	1 day	Mon 1/18/21	Mon 1/18/21	42	FFX Installation Engineer
44	QM Software Install on Prod	5 days	Tue 1/19/21	Mon 1/25/21	43	FFX Installation Engineer
45	Phase 1 - Upgrade Current Remittance System	120 days	Thu 11/19/20	Tue 5/11/21		
46	Design - Review of Current System	28 days	Thu 11/19/20	Thu 12/31/20		
47	Scanning - Batch Definition	2 days	Thu 11/19/20	Fri 11/20/20		
48	ibml jobs - confirmation of job structure	1 day	Thu 11/19/20	Thu 11/19/20	23	FFX PM,FFX BA,INDOR SMEs
49	Batch Definition	1 day	Fri 11/20/20	Fri 11/20/20	48	FFX PM,FFX BA,INDOR SMEs
50	Batch Integrity	1 day	Fri 11/20/20	Fri 11/20/20	48	FFX PM,FFX BA,INDOR SMEs
51	Workflow	1 day	Mon 11/23/20	Mon 11/23/20		
52	Confirm Workflow of Current System	1 day	Mon 11/23/20	Mon 11/23/20	50	FFX PM,FFX BA,INDOR SMEs
53	Output ReWrite	2 days	Tue 11/24/20	Wed 11/25/20		
54	Image Output	1 day	Tue 11/24/20	Tue 11/24/20	52	FFX PM,FFX BA,INDOR SMEs
55	Output Form Definitions	1 day	Wed 11/25/20	Wed 11/25/20	54	FFX PM,FFX BA,INDOR SMEs
56	Reporting	1 day	Fri 11/27/20	Fri 11/27/20		
57	Reporting Confirmation	1 day	Fri 11/27/20	Fri 11/27/20	55	FFX PM,FFX BA,INDOR SMEs
58	Design Document Preparation	22 days	Mon 11/30/20	Thu 12/31/20		
59	Prepare Draft Design Document	10 days	Mon 11/30/20	Fri 12/11/20	57	FFX BA,FFX SMEs
60	Deliver Draft to INDOR	1 day	Mon 12/14/20	Mon 12/14/20	59	FFX PM
61	Design Review	5 days	Tue 12/15/20	Mon 12/21/20	60	FFX PM,FFX BA,INDOR SMEs
62	Update Design Document with Feedback	5 days	Tue 12/22/20	Wed 12/30/20	61	FFX BA,FFX SMEs
63	Rework of Design Document	1 day	Tue 12/22/20	Tue 12/22/20	61	FFX BA,FFX SMEs
64	Deliver Final Design Document	1 day	Thu 12/31/20	Thu 12/31/20	62	FFX PM
65	Milestone - Design Document Approval	1 day	Thu 12/31/20	Thu 12/31/20	62	INDOR PM
66	Development	10 days	Mon 1/4/21	Fri 1/15/21		
67	Sample Images	10 days	Mon 1/4/21	Fri 1/15/21	58	INDOR
68	Prepare Sample Batches/Transactions for Build	10 days	Mon 1/4/21	Fri 1/15/21	58	INDOR
69	Prepare Test Cases	10 days	Mon 1/4/21	Fri 1/15/21	58	INDOR
70	Configuration/Development	32 days	Mon 1/4/21	Tue 2/16/21		
71	Import current solution	10 days	Mon 1/4/21	Fri 1/15/21	64	FFX Engineer
72	Quick Purge, Rules & Configuration	1 day	Mon 1/18/21	Mon 1/18/21	71	FFX BA
73	Quick Output Configuration	10 days	Tue 1/19/21	Mon 2/1/21	72	FFX Engineer
74	ITS/FAST Integration	5 days	Tue 1/19/21	Mon 1/25/21	72	FFX Engineer
75	Web Service Repository integration	5 days	Tue 1/26/21	Mon 2/1/21	74	FFX Engineer
76	Transform	1 day	Tue 1/19/21	Tue 1/19/21	72	FFX BA
77	Stats	2 days	Wed 1/20/21	Thu 1/21/21	76	FFX BA
78	Reporting - ReWrite in SQL Reporting Services	20 days	Wed 1/20/21	Tue 2/16/21	76	FFX Report Writer
79	System Testing (Fairfax QA)	20 days	Wed 2/17/21	Tue 3/16/21		
80	Review modular code	20 days	Wed 2/17/21	Tue 3/16/21	78	Fairfax Software
81	Test component modules to product specifications	20 days	Wed 2/17/21	Tue 3/16/21	78	Fairfax Software
82	Identify anomalies to product specifications	20 days	Wed 2/17/21	Tue 3/16/21	78	Fairfax Software
83	Modify code	20 days	Wed 2/17/21	Tue 3/16/21	78	Fairfax Software
84	Re-test modified code	20 days	Wed 2/17/21	Tue 3/16/21	78	Fairfax Software
85	Training	25 days	Wed 2/17/21	Tue 3/23/21		
86	Develop Training Plan	1 day	Wed 2/17/21	Wed 2/17/21	70	FFX Trainer

87	Train Testers-Fairfax software	5 days	Wed 3/17/21	Tue 3/23/21	79	FFX Trainer
88	UAT Testing	31 days	Wed 3/24/21	Wed 5/5/21		
89	UAT Testing	30 days	Wed 3/24/21	Tue 5/4/21	87	INDOR
90	Defect Management	30 days	Wed 3/24/21	Tue 5/4/21	87	FFX Team
91	Volume/Stress Test (Staging to Staging)	10 days	Wed 3/24/21	Tue 4/6/21	87	INDOR
92	Testing of Production Environment	7 days	Wed 3/24/21	Thu 4/1/21	87	INDOR
93	Testing Complete / Ready for Production	1 day	Wed 5/5/21	Wed 5/5/21	89	Fairfax Software
94	Production/Phase Acceptance	4 days	Thu 5/6/21	Tue 5/11/21		
95	Production Cutover/Deployment	4 days	Thu 5/6/21	Tue 5/11/21	93	Fairfax Software
96	Go Live - Remittance - PRODUCTION	0 days	Tue 5/11/21	Tue 5/11/21	95	Fairfax Software
97	Phase 2 - Long Forms	149 days	Wed 5/12/21	Mon 12/6/21		
98	Design - Long Forms	149 days	Wed 5/12/21	Mon 12/6/21		
99	Workflow	3 days	Wed 5/12/21	Fri 5/14/21		
100	Determine flow of system	1 day	Wed 5/12/21	Wed 5/12/21	96	FFX PM,FFX BA,INDOR SMEs
101	Queues - Quick Key, Quick Review	1 day	Thu 5/13/21	Thu 5/13/21	100	FFX PM,FFX BA,INDOR SMEs
102	Quick Research	1 day	Fri 5/14/21	Fri 5/14/21	101	FFX PM,FFX BA,INDOR SMEs
103	Forms	10 days	Mon 5/17/21	Fri 5/28/21		
104	Form Business Requirements	10 days	Mon 5/17/21	Fri 5/28/21	102	FFX PM,FFX BA,INDOR SMEs
105	Output Definitions	3 days	Mon 5/31/21	Wed 6/2/21		
106	Image Output	1 day	Mon 5/31/21	Mon 5/31/21	104	FFX PM,FFX BA,INDOR SMEs
107	Output Form Definitions	2 days	Tue 6/1/21	Wed 6/2/21	106	FFX PM,FFX BA,INDOR SMEs
108	Reporting	2 days	Thu 6/3/21	Fri 6/4/21		FFX PM,FFX BA,INDOR SMEs
109	Reporting Requirements	2 days	Thu 6/3/21	Fri 6/4/21	107	
110	Design Document Preparation	24 days	Mon 6/7/21	Thu 7/8/21		
111	Prepare Draft Design Document	10 days	Mon 6/7/21	Fri 6/18/21	109	FFX BA,FFX SMEs
112	Deliver Draft to INDOR	1 day	Mon 6/21/21	Mon 6/21/21	111	FFX BA,FFX SMEs
113	Update Design Document with Feedback	1 day	Tue 6/22/21	Tue 6/22/21	112	FFX BA,FFX SMEs
114	Rework of Design Document	5 days	Wed 6/23/21	Tue 6/29/21	113	FFX PM,FFX BA,INDOR SMEs
115	Deliver Final Design Document	2 days	Wed 6/30/21	Thu 7/1/21	114	FFX BA,FFX SMEs
116	Milestone - Design Document Approval	5 days	Fri 7/2/21	Thu 7/8/21	115	FFX BA,FFX SMEs
117	Development Long forms	10 days	Fri 7/9/21	Thu 7/22/21		
118	Sample images (100 per page per form scanned through Opex ibml type)	10 days	Fri 7/9/21	Thu 7/22/21	110	INDOR
119	Prepare Sample Batches/Transactions for Build	10 days	Fri 7/9/21	Thu 7/22/21	110	INDOR
120	Prepare Test Cases	10 days	Fri 7/9/21	Thu 7/22/21	110	INDOR
121	Configuration/Development	53 days	Fri 7/9/21	Tue 9/21/21		
122	Batch Type Configuration	1 day	Fri 7/9/21	Fri 7/9/21	110	FFX BA
123	Workflow configuration	5 days	Mon 7/12/21	Fri 7/16/21	122	FFX BA
124	Batch Integrity	5 days	Mon 7/19/21	Fri 7/23/21	123	FFX BA
125	Qcapture Configuration	2 days	Mon 7/26/21	Tue 7/27/21	124	FFX BA
126	Quick Key - Rules & Configuration	20 days	Wed 7/28/21	Tue 8/24/21	125	FFX BA
127	Quick Key - Form files field setting and business rules	20 days	Wed 7/28/21	Tue 8/24/21	125	FFX BA
128	Forms - OCR	20 days	Fri 7/9/21	Thu 8/5/21	110	FFX Forms Designer
129	QReview	1 day	Fri 7/9/21	Fri 7/9/21	110	FFX BA
130	Quick Output Configuration	20 days	Wed 8/25/21	Tue 9/21/21	127	FFX Engineer
131	Transform	5 days	Wed 8/25/21	Tue 8/31/21	127	FFX BA
132	Stats	1 day	Wed 9/1/21	Wed 9/1/21	131	FFX BA
133	Reporting	15 days	Wed 9/1/21	Tue 9/21/21	131	FFX Report Writer

134	System Testing (Fairfax QA)	20 days	Wed 9/22/21	Tue 10/19/21		
135	Review modular code	20 days	Wed 9/22/21	Tue 10/19/21	121	Fairfax Software
136	Test component modules to product specifications	20 days	Wed 9/22/21	Tue 10/19/21	121	Fairfax Software
137	Identify anomalies to product specifications	20 days	Wed 9/22/21	Tue 10/19/21	121	Fairfax Software
138	Modify code	20 days	Wed 9/22/21	Tue 10/19/21	121	Fairfax Software
139	Re-test modified code	20 days	Wed 9/22/21	Tue 10/19/21	121	Fairfax Software
140	UAT Testing	30 days	Wed 10/20/21	Tue 11/30/21		
141	UAT Testing	30 days	Wed 10/20/21	Tue 11/30/21	134	INDOR
142	Defect Management	30 days	Wed 10/20/21	Tue 11/30/21	134	FFX Team
143	Volume/Stress Test (Staging to Staging)	10 days	Wed 10/20/21	Tue 11/2/21	134	INDOR
144	Testing Complete / Ready for Production	1 day	Wed 10/20/21	Wed 10/20/21	134	Fairfax Software
145	Production/Phase Acceptance	4 days	Wed 12/1/21	Mon 12/6/21		
146	Production Cutover/Deployment	4 days	Wed 12/1/21	Mon 12/6/21	140	Fairfax Software
147	Go Live - Long Forms - PRODUCTION	0 days	Mon 12/6/21	Mon 12/6/21	146	Fairfax Software
148	Support and Maintenance	2 days	Tue 12/7/21	Wed 12/8/21		
149	Lessons Learned	1 day	Tue 12/7/21	Tue 12/7/21	147	FFX PM,INDOR
150	Project Closeout	1 day	Wed 12/8/21	Wed 12/8/21	149	FFX PM

Project Organization and Staffing

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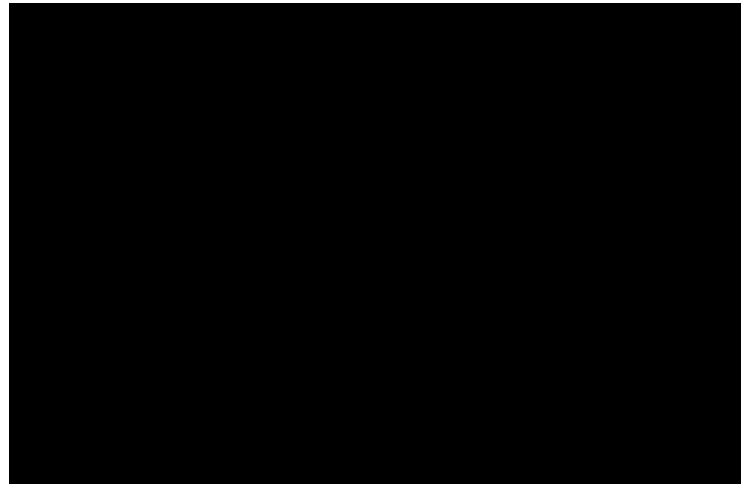
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Deliverables by Phase

The purpose of the Preliminary Project Plan is to provide a documented framework for the management and control of the organizational, developmental and supporting processes necessary for the successful execution of the project. To that end, the plan submitted herein is designed to be a document that is continually evolving based on events, predefined timeframes and expected planned course of actions as we know them today.

Fairfax Software has extensive experience in the deployment and management of these types of solutions. Our proven methodology has been used in the implementation of twenty-one (21) state tax and revenue (and the District of Columbia) document and remittance projects, as well as in over one hundred (100) other data capture/imaging projects in both the government and commercial sectors here in the United States, Canada, and New Zealand. Certainly, no other vendor in the US can match our record in the number of successful implementations in the state tax and revenue marketplace. The Project Plan provides a road map to successful implementation. It facilitates work by providing a common language, leveraging existing work products and artifacts and building on a history of best practices and lessons learned.

The DOR project will be implemented using a phased implementation plan consisting of four major steps.

Project Initiation. This phase includes project initiation tasks and the creation, review, and acceptance of all Project Management Plans. Technical tasks include hardware validation and the building of required environments including DEV, TEST, and PROD. *Quick Modules* software is installed in all environments.

Phase 1 – Upgrade Current Remittance System. This phase includes a design review of the current remittance system and confirmation of ibml batch scanning jobs. The workflow of the current system is confirmed and output jobs are re-written using the latest techniques. All reports are validated and confirmed. A detailed design document is created, reviewed, updated, and approved. Configuration and development tasks for upgrading the remittance jobs is completed. Subsequent QA Testing, UAT testing, and training takes place. Long form processing is then accepted and deployed for production.

Phase 1 Milestones:

Design Document Acceptance 12/30/2020
Phase 1 Go Live 5/11/2021

Phase 2 – Long Forms. This phase includes defining the workflow for long forms, understanding form business requirements, output requirements and reporting requirements. A detailed design document is created, reviewed, updated, and approved. Configuration and development tasks for remittance jobs are completed. Subsequent QA Testing, UAT testing, and training takes place. Long Forms are then accepted and deployed for production.

Phase 2 Milestones:

Design Document Acceptance 7/2/2021
Phase 2 Go Live 12/6/2021

Forms to be included in the project include for both phases include:

Forms	Forms
IT-40	Schedule H
Schedule 1	Schedule CT-40PNR
Schedule 2	IT-40RNR
Schedule 3	IT-40X
Schedule 4	SC-40
Schedule 5 / Schedule IN-DONATE	IT-9
Schedule 6	ES-40
Schedule 7	IT-41
Schedule CT-40	IT-41ES
Schedule IN-DEP	WH-3 Annual
IN-EIC	IT-20
Schedule IN-529	IT20-S

Forms	Forms
Schedule IN-EDGE	IT65
Schedule IN-EDGE-R	IT-40ES
Schedule IN-OCC	AR Voucher
IT-40PNR	IT-6
Schedule A	IT-6WTH
Schedule B	Various PFCs (PFC Fillable 002 in the Bidders Library is representative of the various Payment Filing Coupons (PFCs) that are imaged. Only the detached coupon, not the entire page, is returned by remitters and is imaged)
Schedule C	ITS Voucher (detached voucher is imaged)
Schedule D	IN-EIC
Schedule E / Schedule IN-PRO	IT-20 Schedule F
Schedule F/ Schedule IN-DONATE	
Schedule G	
Wage Statements (W-2, 1099R, 1099DIV, etc.)	

Fairfax Software will support the forms for the years 2023, 2022, 2021, 2020, and 2019. Following completion of the startup transition period by May 2022, Fairfax's support of forms for the years listed above will be necessary to enable processing of current returns, future returns, estimated payments, coupons/vouchers, and legislative form changes.

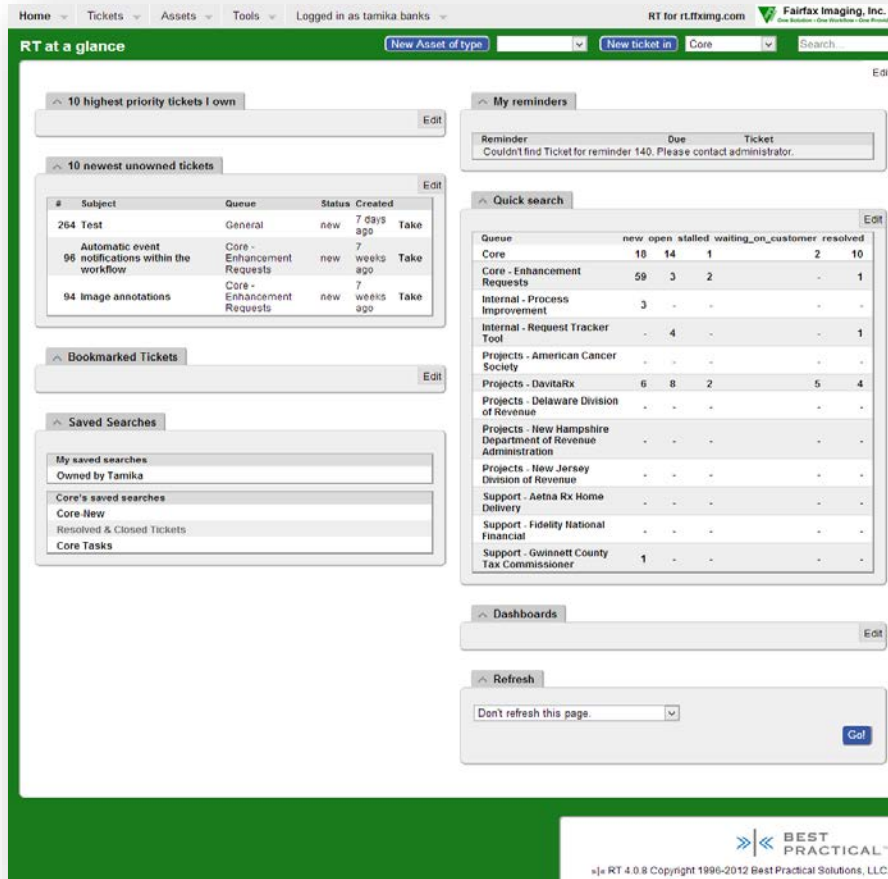
Support and Maintenance. Support is transitioned from the Project Team to the Software Support Services Team for application support and maintenance. A lessons learned session provides valuable feedback on improving our methodology and identifying where our processes can be improved. Project closeout is the final task on the plan. Robert Castello, the Primary Production Support Manager will conduct weekly status meetings thru the length of the contract. Fairfax Software will provide ongoing application maintenance support and defect resolution for the solution during core business hours, during extended hours throughout peak processing season, and for planned changes to production and unplanned emergencies during off-hours.

Throughout the project, our performance measurements are outcome-based completions based upon major milestones/tasks. We use progress milestones which are based on tasks and deliverables such as documentation as part of our Fairfax Software implementation methodology. Percentage of completion is maintained within the Project Plan for continued measurement of plan execution. Intended/planned dates of completion as well as actual dates of completion are documented for major tasks within the plan. Measuring project performance provides DOR with a clear picture of the health of the project and will instill confidence in the project teams of success.

Cross reference to the Requirements Matrix document is completed to ensure all features and functions are confirmed as included in the phase. Throughout the project, DOR will review and sign off on the various milestones and deliverables (i.e., documentation, user acceptance by phase, etc.) to indicate conformance, accuracy and completion of the tasks.

In RT, the queue is the central organizational unit. Simply put, a queue is a line of tickets awaiting processing. More specifically, a queue refers to a ticket's category. RT tracks everything that happens with a ticket, called history. Ticket history includes information like ticket creation time, status updates, comments, and replies.

The RT at a glance page shown below is a dashboard providing users quick access to the main functions in RT. From the dashboard, users can view assigned tickets, unassigned tickets, bookmarked tickets, work in queues, and saved searches. Users can also create new tickets and initiate searches from the RT at a glance page.



The screenshot displays the 'RT at a glance' dashboard. At the top, there's a navigation bar with links like Home, Tickets, Assets, Tools, and a login status. Below this, the dashboard is divided into several sections:

- 10 highest priority tickets I own:** A section for managing high-priority tickets.
- 10 newest unowned tickets:** A table listing recent tickets not assigned to the user.

#	Subject	Queue	Status	Created	Action
264	Test	General	new	7 days ago	Take
96	Automatic event notifications within the workflow	Core - Enhancement Requests	new	7 weeks ago	Take
94	Image annotations	Core - Enhancement Requests	new	7 weeks ago	Take
- Bookmarked Tickets:** A section for viewing saved ticket references.
- Saved Searches:** A list of predefined search filters like 'Core-New', 'Resolved & Closed Tickets', and 'Core Tasks'.
- My reminders:** A section for managing task reminders.
- Quick search:** A table showing ticket counts across various queues.

Queue	new	open	stalled	waiting_on_customer	resolved
Core	10	14	1	2	10
Core - Enhancement Requests	59	3	2	-	1
Internal - Process Improvement	3	-	-	-	-
Internal - Request Tracker Tool	-	4	-	-	1
Projects - American Cancer Society	-	-	-	-	-
Projects - DavitaRx	6	8	2	5	4
Projects - Delaware Division of Revenue	-	-	-	-	-
Projects - New Hampshire Department of Revenue Administration	-	-	-	-	-
Projects - New Jersey Division of Revenue	-	-	-	-	-
Support - Aetna Rx Home Delivery	-	-	-	-	-
Support - Fidelity National Financial	-	-	-	-	-
Support - Guilford County Tax Commissioner	1	-	-	-	-
- Dashboards:** A section for managing different dashboard views.
- Refresh:** A control to refresh the page content.

Figure 7 - R/T Tracking Screen Example

Early risk assessment and mitigation

Every mission-critical project has potential risk. One of the biggest threats to proper project execution is the inability to identify risk, and act accordingly before the risk becomes a threat to the project proper execution. Fairfax Software's experience implementing tax and revenue document management and remittance solutions offers DOR a vendor that reduces risk. Having installed successful solutions in twenty-four (24) states performing essentially what the DOR requires herein makes us eminently placed to spot and assess risk early on, and certainly before it gets to become a threat to the project. We have

acquired invaluable lessons throughout our dedicated twenty-five (25) years of service to the state tax and revenue departments. We pledge to DOR to put these experiences and lessons learned to a good use in identifying project risks and clearing them before they become threats to project execution.

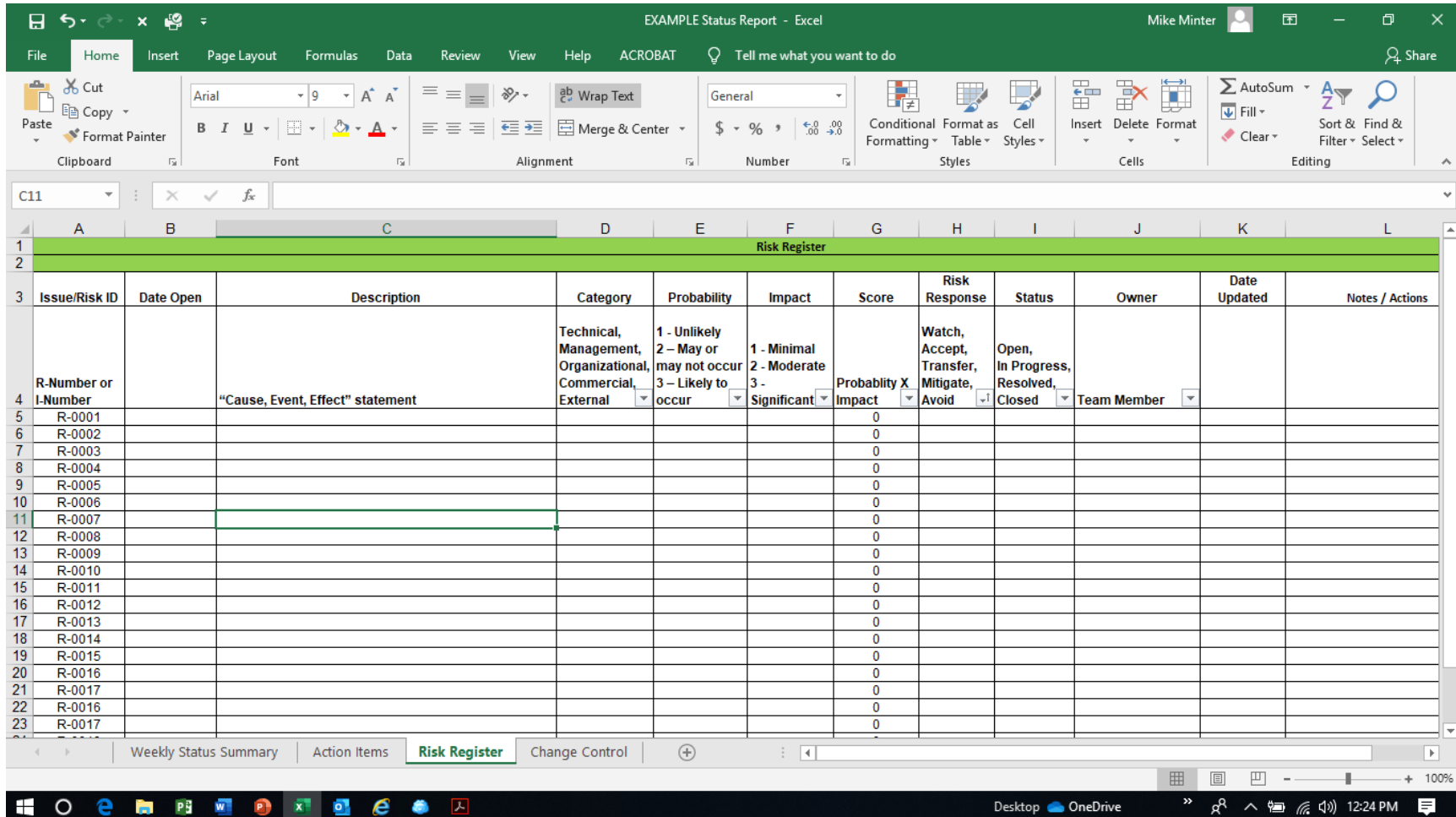
Typical risks identified are noted below with mitigation strategies identified.

Risk	Risk Level L-Low/M-Medium /H-High	Risk Value	Mitigation Strategy
Project Size			
Resources	M: Need many resources for identifying business practices, system set up and testing.	2 – May or May Not Occur	Assigned DOR Project Manager, comprehensive project management approach and communications plan
Estimated Project Schedule	M: Five to seven months	3 – Likely to Occur	Created comprehensive project timeline with frequent baseline reviews
Team Size	H: Larger project teams tend to get sidetracked.	3 – Likely to Occur	Comprehensive communications plan, frequent meetings, tight project management oversight
Number of Interfaces to Existing Systems Affected	L: Unknown number at this time.	1 - Unlikely to Occur	Develop interface control document immediately
Project Definition			
Project Scope Creep (modifications needed to the baseline system to accommodate our business requirements)	L: Scope generally defined, subject to revision	1 - Unlikely to Occur	Scope initially defined in project plan, design document sign off to prevent undetected scope creep
Timeline Estimates Unrealistic	M: Timeline assumes no derailment	2 – May or May Not Occur	Timeline reviewed monthly by three groups (Project Sponsors, Fairfax Software Team Executive Project Manager and Core Project Team) to prevent undetected timeline departures
Number of Team Members Unknowledgeable of Business	L: Team well versed in business operations impacted by technology	1 - Unlikely to Occur	Fairfax Software Team Executive Project Manager and DOR to identify knowledge gaps and provide training, as necessary, mostly during analysis.
Project Leadership			
Absence of Commitment Level/Attitude of Management	L: Understands value & supports project	1 - Unlikely to Occur	Frequently seek feedback to ensure continued support
Absence of Commitment Level/Attitude of Users	L: Understands value & supports project	1 - Unlikely to Occur	Frequently seek feedback to ensure continued support

Risk	Risk Level L-Low/M-Medium /H-High	Risk Value	Mitigation Strategy
Absence of Mid-Management Commitment	L: Most understand value & support project	1 - Unlikely to Occur	Frequently seek feedback to ensure continued support
Project Staffing			
Project Team Availability	M: Distributed team makes availability questionable	2 – May or May Not Occur	Continuous review of project momentum by all levels. Consultant to identify any impacts caused by unavailability.
Physical Location of Team prevents effective management	M: Team is dispersed among several sites	3 – Likely to Occur	Use of DOR Project Manager and Functional Leads to arrange meetings. Comprehensive Communications Plan
Weak User Participation on Project Team	L: Users are part-time team members	1 - Unlikely to Occur	User Group Participants coordinated by Core Project Team
Software Vendor			
Team's Lack of Knowledge of Package	M: Conceptual understanding	2 – May or May Not Occur	Will learn more during analysis and design phases.

Table 3 - Project Risk Analysis and Mitigation

The Fairfax Software Project Manager will deliver a Risk Management Plan. Risks will be reviewed weekly during a weekly Risk Meeting. Those risks are then added to the Risk Register and delivered weekly with the Status Report.



Issue/Risk ID	Date Open	Description	Category	Probability	Impact	Score	Risk Response	Status	Owner	Date Updated	Notes / Actions
R-Number or I-Number		"Cause, Event, Effect" statement	Technical, Management, Organizational, Commercial, External	1 - Unlikely 2 - May or may not occur 3 - Likely to occur	1 - Minimal 2 - Moderate 3 - Significant	Probability X Impact	Watch, Accept, Transfer, Mitigate, Avoid	Open, In Progress, Resolved, Closed	Team Member		
R-0001						0					
R-0002						0					
R-0003						0					
R-0004						0					
R-0005						0					
R-0006						0					
R-0007						0					
R-0008						0					
R-0009						0					
R-0010						0					
R-0011						0					
R-0012						0					
R-0013						0					
R-0014						0					
R-0015						0					
R-0016						0					
R-0017						0					
R-0016						0					
R-0017						0					

Figure 8 - Weekly Risk Registry Report

2.0 Functional Requirements

Respondents must describe the functionality of their proposed solution and how it meets the requirements defined in Attachment F.

Respondents should specifically describe functionality related to:

Auto-Notifications	Reporting and Dashboards
Capture	Workflow
Data Validation	Data Retention and Archival
Electronic Remittances	Data, Process, and Transaction Flows
Forms and Batching	User Roles and Responsibilities
Image Storage and Retrieval	In house Data Entry

Fairfax Software Response

DOR is currently processing remittance and vouchers using *Quick* Modules 5.0, Release Branch 5. Fairfax Software will upgrade the existing *Quick* Modules 5.0 modules to the latest version Release Branch 7 (RB7). As a customer under a support contract, the RB7 software is provided at no additional cost to DOR. Fairfax Software has also included Appendix 1 – System Description to this Technical Functional Section for reference.

New Features in proposed *Quick* Modules 5.0 Release Branch 7

This latest version of *Quick* Modules offers several new features and improvements over the current version (*Quick* Modules 5.0 Branch 2) deployed at the Department. These include:

- HTML5 web-based applications replacing Microsoft® Silverlight.
- Workflow Monitor:
 - Improved search features
 - Support multiple profile for each user
 - Monitor scanner activities
- Replacement of *Quick* Reports from a thick client to a modern web-based version based on SQL Server Reporting Services (SSRS). *Quick* Reports RB7 benefits include:
 - Thin-client capability.
 - Reports built in SSRS and accessed in *Quick* Reports application.
 - Query and reporting tools including canned reports and the ability to add custom reports with SSRS
 - Real-time reporting for the below reports; for these reports statistics available before batch process is complete.
 - Delete Log Report
 - Data Entry Operator Performance Report
 - Data Change Tracking Report
- Replacement of *Quick* Deposit Monitor from a thick client to a modern web-based version.
 - Thin-client capability.
 - Access to check data and images encrypted by accessing secure web application.
 - Updates to modules within the base version for monitoring Check 21 deposit functions

and to eliminate the need to installing software at client workstations.

- Updated *Quick* Key features:
 - Ability to add a virtual voucher to any check only process.
 - Split screen provides the capability to view both coupon and check on the same screen.
 - On-Demand OCR; when text is not readable user will now be able to capture highlighted text, without having to key additional characters.
 - Single Character Correction; will isolate on an individual character, if it is the only character within a field with a poor confidence rating and allow correction of that single character. A shortcut is available in *Quick* Key to toggle between character correction mode and field correction mode.
- Updated *Quick* Review features:
 - Users can view the document image in a pop-out image, while viewing/editing the data entry fields on the OCR tab.
- Updated QMS features.
- System Tools: to conduct more detailed queries, especially for user actions.
- *Quick* Capture Enhancements.
 - Improved money order form image enhancement and recognition.
- Addition of *Quick* Encryption.
- Conversion of images into searchable PDF's for storage as opposed to image files.
- Single Sign-On allows access to additional *Quick* Modules applications without the need to login again.

Automatic Notifications

Quick Modules 5.0 RB7 takes advantage of standard Microsoft tools that allow automatic notifications of system events via email to DOR technical staff. Reports can be automatically generated on a schedule and distributed via email to administrative staff automatically.

The web-based *Quick* Workflow Monitor continuously monitors system performance from the mailroom to output providing a graphical representation of work flowing through system queues. Indicators alert administrators of possible queue backlog. Current throughput is automatically compared to historical data. For example, a graph will show current system throughput and a graph below will show throughput for the same time on a previous day allowing an administrator to quickly see if they are ahead of schedule, behind schedule, or on target. An administrator may customize the data view with point-and-click ease.

Capture and Mail Tracking Improvements

As a leading provider of tax/revenue processing solutions, Fairfax Software has developed specific best practices that have proven to offer efficiencies in tax/revenue processing. Over the years we have partnered with Agissar and ibml at a large number of State Revenue operations to tightly integrate the INFOPoll® suite of hardware and software with the *Quick* Modules platform to create an industry best mail and document tracking solution.

DOR has been using Agissar's INFOPointe® hardware and INFOPoll® software across the mail sorting, opening, and document preparation processes for many years to help manage the labor and achieve efficiencies.

These same Agissar products are commonly deployed by Fairfax Software at other States and are largely seen as best practice. However, what makes Fairfax Software unique to other imaging vendors are the enhancements that we can offer through systems integration with the INFOPoll® platform.

These enhancements include tracking the Agissar batch barcodes after the doc prep process and through the scanning process on the ibml scanners. This tight integration allows Fairfax Software to tie the physical tax documents to their electronic counterparts and report on the full lifecycle of a tax document.

The full solution is described below in more detail. Much of it will be familiar, but as you read you will see the enhancements we can offer.

Mail Opening and Tray Tracking:

At Indiana's Revenue Processing Center, envelopes and flats arrive in USPS mail tubs and trays at the start of each processing day. Following sort, INFOPoll® Tray Tracking Barcodes containing unique identifier values are applied on a *one-for-one* basis to these tubs and trays.

In your future state, INFOPoll® barcodes will follow the documents as they are handled all the way through the scanning process providing a complete chain-of-custody for documents. INFOPointe® Data Collectors and the INFOPoll® Client (desktop) Application will monitor these trays and tubs as they move through your mailroom.

The Tax type ID and the respective volume (# of envelopes) contained within these units-of-work are introduced to the INFOPoll® Enterprise Edition System via the INFOPointe® Retrofit Kits on your 2, Omaton high-speed mail openers (206 and 306).



Similar to your process today, the operator of the mail opener will use a hand held bar code scanner to scan their Employee ID, a Tax ID, and the Unique Tray Tracking barcode. Next, they open the mail quickly through the opener. When the mail tray's respective envelopes are completed, they merely need to return the work to its original mail tray or tub, stage it for distribution, and scan the next unique tracking bar code sheet into the system before running the next mail tray. This process continues until all mail trays and tubs have been both electronically and physically tagged and opened.

The data captured by the INFOPointe® Data Collector is loaded into the INFOPoll® SQL Database in real-time. Management has the ability to see the volumes of "Opened Mail" as it comes into the system via the INFOPoll® Client (desktop) Application and a count of all trays by tax type. This provides the first *Touch Point* in the chain-of-custody and provides an operation with the volume data they need by business line to make staffing decisions for downstream processing. This access to real-time data allows managers to act proactively.

Mail Extraction and Document Prep:

The entire time that opening (milling) is taking place, an Expeditor (runner) is distributing work to the individuals who will extract the contents and perform the required document prep at Agissar ASED's (All Size Extraction Desks) equipped with INFOPointe®.



The ASED operators begin by logging into the INFOPointe® System by scanning their Operator ID, a Job ID, and the Unique Tray Tracking bar code sheet. They then begin the process of envelope extraction and document prep. Since the operators are retaining 100% of the envelopes, the system utilizes light curtain tracking sensors embedded in the staging tray that holds pre-opened envelopes (from the Omaton). Every time an operator reaches and pulls a new envelope transaction, they break the light curtain and create a count pulse. In order to eliminate the potential for count errors, management is able to configure a time delay by specific Job ID in the Administrative section of the INFOPoll® Enterprise Edition Client Application. This effectively discourages inadvertent count pulses. However, the INFOPoll® Client Application also provides Tray and Reconciliation Reports that allow management to reconcile counts from the ASED against the volume tallied for those trays and tubs at the Omaton.

ASED workstations are designed to provide superior ergonomics and can be customized to best serve the application and customer requirements. The workspace helps maximize productivity through ergonomic comfort. Equally important is the in-the-moment posting of production rates that naturally motivates operators to meet management's standards for the business line they are processing.

Here's where our process enhancements begin:

Following document prep, the Tray barcodes are currently collected and discarded at RPC. With the enhanced Fairfax process, we will have the expeditor's print new Batch barcodes in INFOPoll® that will be associated with their original tray. Expeditors simply scan the Tray barcode and choose how many batch barcodes to create and who they are creating them for. When the barcodes are printed, they are automatically associated with their tray and the person who performed the document prep. While Fairfax's intelligent capture software minimizes sorts, most operations will want to separate at least the tax documents containing checks from returns. This process allows separations to occur while maintaining the chain-of-custody and tracking within the solution.

Scanning:

Groups of documents of like tax types from different people can be grouped together as long as the INFOPoll® barcode sheets serve as the first document in each prepper's batch. The scanner job will be configured to automatically batch based on the INFOPoll® barcode logic. Inline, the imaging system captures these batch barcodes and automatically triggers the creation of a new batches on the fly. The Agissar Batch ID's, which also includes the mail received date are now linked to the electronic batches, creating a tie between the physical tax documents and its associated electronic record.

We will deploy the INFOPoll® API for Imaging Operations which operates as a headless task that links the INFOPoll® and ibml databases together. When tax documents are scanned, the status of Batches in INFOPoll® are automatically updated to "scanned" and it inserts the scanner operator name for

continued chain-of-custody.

By knowing the full lifecycle of a tax document, it allows us to better manage the quality of prepped work. This is a great feature not only because it allows you to report on the quality of prepped work, but it provides a complete audit trail for these documents containing PII and other sensitive information.

Included with the INFOPoll® API is automatic production reporting within the INFOPoll Client Application on ibml scanner statistics.

What defines the Fairfax Software Agissar/INFOPoll® solution is complete accountability of *people*, *equipment*, and *documents*. Quite simply put, the INFOPoll® System gives management the data they need to be successful and provides immediate feedback to the individuals performing the production task of mail extraction and document prep. This motivates employees to achieve standards and helps foster a self-managing environment.

Quick Input

Data capture begins with scanning the paper forms or receiving forms electronically from other sources. *Quick Input* is our input image and data acceptor designed to operate with the various scanners manufactured in the market. As a reseller of ibml and OPEX scanners, we are very experienced with these scanners and their interfaces. We also have extensive experience with the NCR iTran and the WiselP interface. *Quick Input* takes advantage of the intelligent features of these scanners and receives multiple image formats in black and white, greyscale, and color depending on the scanner. Electronic submissions can be input automatically including electronically filed returns and images captured outside of the system and provided by various electronic methods.

Quick Capture runs on the server as an unattended service and as such does not require any operator interaction. *Quick Input* receives image files and data for input from the Scanners and ingests them into the *Quick Modules* workflow. It constitutes an entry point into the *Quick Modules* workflow for the following data types:

- Scanned or imaged documents
- Electronically filed documents
- Bulk submitted documents
- Images of any standard format
- Electronically transferred images (FTP) and data from 3rd party systems.

By design, *Quick Input* supports both centralized and decentralized scanning activities since files can be scanned virtually at any location. For centralized scanning, *Quick Input* is certified to operate with many scanners and will interface to each in order to import work into the *Quick Modules* system allowing *Quick Modules* to take full advantage of the scanner's advanced functionality. During the *Quick Input* process, the image quality assurance test is performed to quality check each image.

Quick Enhance

After images are ingested into the workflow, *Quick Enhance* identifies scanned or received documents and performs several enhancement algorithms on the image to improve its readability. This module runs in an unattended mode on the server without the need for operator interaction. *Quick Enhance* provides the following:

- **Image Improvement**
The image improvement stage can automatically correct skewed images; correct miss-oriented images, perform horizontal and vertical registration; remove random noise, dot-

shaded regions, and unwanted lines; and correct inverse text, as well as ensure compliance with banking image quality standards for image exchange.

- **Document Form Classification**

Quick Enhance performs the identification process in one of three ways using the following hierarchical method:

1. The best form identification method is the barcode recognition method. Barcodes can be read with the highest level of accuracy. *Quick Enhance* utilizes its barcode recognition technology to automatically identify the image. *Quick Enhance* supports most major barcode formats such as 2 of 5, 3 of 9, high density, 2-dimensional, or postal barcode.
2. If the form does not have an identifying barcode, or if the barcode recognition failed for any reason (torn or stained barcode, etc.), *Quick Enhance* will locate any set of distinguishing characters on the image and recognize those using OCR/ICR technology. These characters may be any readable information or logo, etc. that clearly distinguishes the form from its peers.

Any image that fails automatic image quality checking can be identified for rescan/rejection and sent to *Quick Review*. Once the forms are classified and depending upon the DOR's specific business rules the system can perform electronic virtual batching to group like documents together. In doing so, the system can provide efficiencies in performing the subsequent steps in the workflow, namely the recognition process and operator balancing and validation steps. This provides a common form type to the operator in order to assist them in the most efficient manner for correcting data and performing validation routines. This process is configurable within the system and operates within the workflow server process of the system.

Quick Capture

Quick Capture, our data capture engine, processes structured, as well as semi-structured forms. For semi-structured forms processing the system automatically searches for key elements of the form where the data may reside in order to perform recognition. Once identified, the system classifies the document type and performs the appropriate recognition steps.

The automatic data capture stage (*Quick Capture*) accepts images, from the previous stage (*Quick Enhance*), and outputs the best available ASCII result data for the characters within the images furnished to it. This module runs in an unattended mode on the server and as such doesn't require any operator interaction in order for it to perform its specific functions.

Quick Capture processes data fields containing constrained handprint numeric, alpha, and alphanumeric fields, and machine-print text on form items as well as courtesy amounts and legal amounts on payment items such as checks. *Quick Capture* uses some of the world's most powerful Optical Character Recognition (OCR), Intelligent Character Recognition (ICR), and Optical Mark Recognition (OMR) engines.

By combining the advanced form identification features of *Quick Enhance* and *Quick Capture* to recognize form id, 1D, or 2D barcodes or form layout the system can identify records within a transaction without the use of separator sheets. Identifying different formats of the same form within the transaction is then accomplished.

Quick Capture uses multiple recognition classifiers fused together for OCR, ICR, OMR, and barcode recognition (BCR); Courtesy Amount Recognition (CAR) and Legal Amount Recognition (LAR). This multiple engine technology allows *Quick Capture* to be a versatile recognition system processing all field types across all form types, including forms and checks. The CAR and LAR can be applied to the

remittance stub/return or check. *Quick Capture* fuses the combined power of the engines to produce the best recognition in the industry.

The *Quick Capture* module is capable of reading the following formats:

- Handprint Numeric
- Handprint Uppercase Alpha
- Handprint Upper/Lower Case Alpha
- Handprint Alpha/Numeric
- Machine print multi-font
- Machine print OCR A & B
- Machine print E13B
 - Machine print MICR
 - Machine print E7B
 - Most commercially available barcodes, including but not limited to 2of5, 3of9, Postal, and Two- Dimensional High-Density formats
 - Courtesy amounts on checks
 - Legal amounts on checks
 - Amounts of money orders
 - Bar codes (1D, 2D, QR codes, Post net)
 - Optical mark recognition (OMR)
 - MICR capture: For checks (business and personal), *Quick Capture* uses *both* optical *and* magnetic recognition to capture the MICR information. *Quick Capture* recognizes MICR fonts with a high degree of accuracy by segmenting each character, including ABA and CPA symbols, and reading each character both magnetically and optically, and then fusing the two reads into one common high-fidelity result.

Each document is assigned a unique intelligent Document Locator Number that includes information including the scanner number or input source, the batch number, processing date, the item sequence number within a submission as well as the sequence number within the batch. Each document is stored in and managed by the *Quick Modules* Microsoft SQL database. This ensures documents are not duplicated, lost, and prevents unauthorized access.

Data Validation and Data Entry

The validation process begins during classification. *Quick Enhance* identifies the transaction boundary. A transaction boundary can be the transition between non-checks and checks where all forms in a transaction are scanned first followed by all checks. After a check is identified, if the next image is identified as a form, a new transaction is starting. The system can also identify the envelope as the last item in a transaction. Transaction integrity logic will verify all expected pages of a return are present and reorder the images within the transaction so they are always in the proper order for downstream processing. Any suspect transaction is automatically sent to the *Quick Review* queue for an operator to review. The *Quick Capture* module then captures the data from the form based on the unique rules' setup for the form type.

Automatic Balancing

Check balancing is performed against all check (money) items in accordance with banking standards. Courtesy Amount Recognition and Legal Amount Recognition (CAR/LAR) is performed prior to balancing and the amount captured from each check is positively matched (balanced) against the amount(s) in the scan line or amount due field on any form.

Working in transaction mode during balancing and validation stages in the workflow allows the DOR to speed their operation. Unlike other systems where a batch is held for deposit while one item is resolved, the *Quick Modules* system allows each transaction to be worked regardless of the disposition of other items which may have been in that batch at scan time.

All batch information is maintained within the systems database. Depending upon the DOR's downstream system(s) data file output can be either transaction based or batch.

Throughout the process, the system provides complete audit trail of each transaction of who touched which items, the modifications made (system as well as operator) and the data. Within the *Quick Workflow Monitor*, DOR staff can visually monitor, search, and retrieve individual items throughout the workflow.

***Quick Key* – Balancing Function**

Within the *Quick Key* module, the operator will perform the Balance function for all remittance items. Performing balancing is an operator attended task in the workflow that performs transaction balancing, ensuring the sum total of all payment items in a transaction (amount paid) equals the sum total of all source document amounts in the same transaction (amount due). Fields used to balance can be on one or more forms in the transaction including match block verification that spans multiple pages. This verification is performed to ensure that all check amounts are accurate prior to deposit. This process includes comparing all amounts read by CAR (or CAR/LAR), or keyed (if rejected at CAR) on each check against the amount due field read on the document. The balancing process begins as soon as all the amounts in each transaction are recognized. The first step is to key correct any MICR recognition errors. If no MICR line corrections are necessary, the system automatically prompts the user to begin balancing the transaction.

If any transaction within the submission does not balance, the system highlights the Amount Paid on each payment instrument within that transaction (checks, money orders, etc.) and prompts the user to correct the captured amount. The system also highlights the Amount Due on each form within that transaction and prompts the user to correct the captured amount. After any amount correction, the system automatically attempts to rebalance the transaction.

Within *Quick Key* the operator can enable a split screen view mode for remittance processing. This allows the operator to view both, check and voucher on the same screen. The active document is always displayed on the top with all related fields on the right. When the operator moves to the next document within the same transaction *Quick Key* automatically moves the next image to the top.

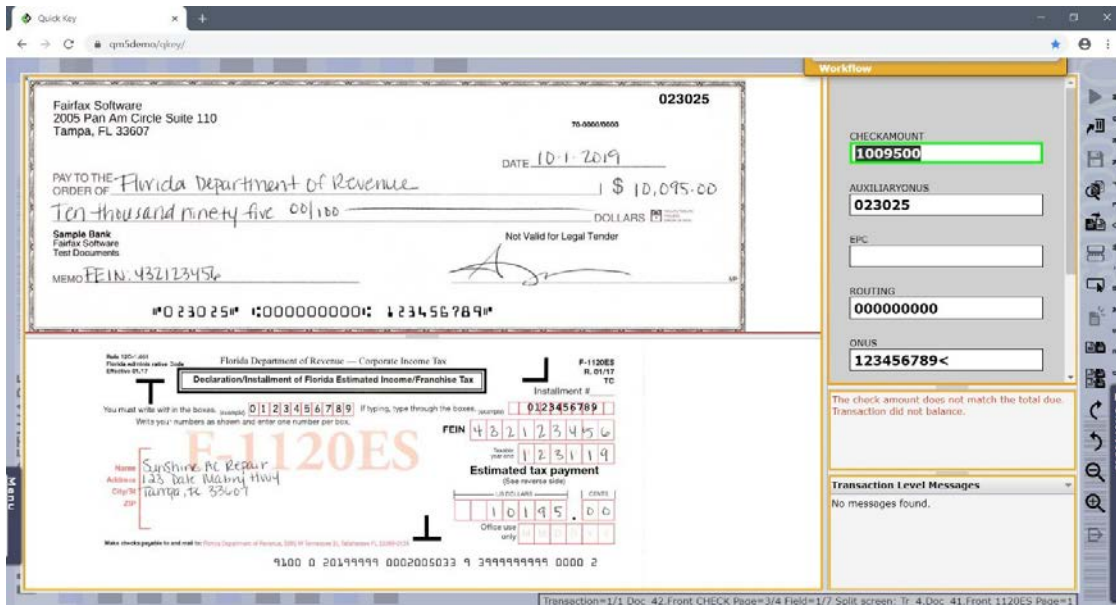


Figure 9 - Quick Balance in split screen Mode

Quick Key – “Rubber Band” Function

Anytime within *Quick Key* that a field needs to be keyed, the operator has the option to use the mouse to draw a box around the field image to instantaneously perform OCR of the data and populate the results into the corresponding entry field. This ad-hoc recognition is especially useful when a long field such as a scanline must be entered. All business rules associated with recognition of the field automatically apply.

Quick Key Secure (Remote Data Entry option)

Quick Key Secure provides secure remote keying of data fields by work-at-home DOR employees or third-party keying services such as Fairfax Software. For data security and to prevent the remote keyer from viewing sensitive or Personally Identifiable Information (PII), all data presented to the keyer is randomized and restricted to snippets from the original image that shows data to be keyed. The keyer sees a ribbon of random snippets from multiple documents and has no ability to view the entire image of the document or know what document they are keying. Fields can be subdivided and presented to different keyers to prevent the keyer from knowing context of the data. *Quick Key Secure* automatically creates the snippets and then populates the data into the proper database record after keying is complete and the data is securely received back to the DOR *Quick Modules* system.

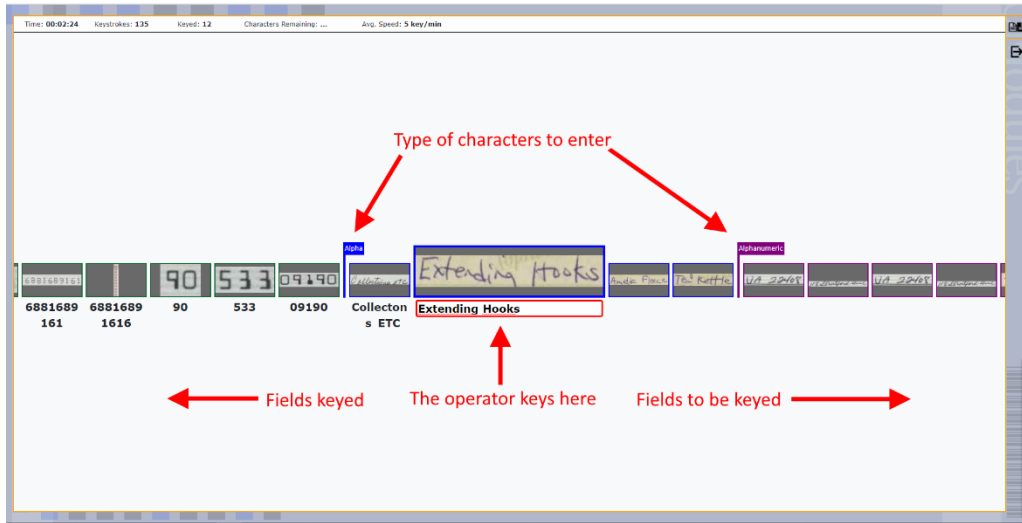


Figure 10 – Quick Key Secure Entry Screen

Quick Research

Included in the design for *Quick* Modules is our *Quick* Research module. *Quick* Research is designed to improve the check only process where no form accompanies the payment instrument. *Quick* Research utilizes a database table within the systems SQL database. This MICR line database associates MICR line data with an account number by accumulating data within the database built over time. It attempts to post the check only to the account automatically or provide the operator with the research capability, in case either, there is no match, or multiple records exist. If it finds a match in the database, it can either, present the results to the operator, or automatically select the form type and associated payment elements.

Once identified, the system will generate a “virtual” voucher that depicts the accounting information and store that voucher image along with the check only item into the systems long term storage for retrieval/access.

Quick Key – Data Validation

Throughout the *Quick* Modules solution, specific business rules can be invoked to ensure accurate capture of the information prior to posting and deposit. These business rules can vary from simple validation rules like range and date checks to complex business rules involving table lookups and executing algorithms using information from several data items on multiple forms. *Quick* Modules user exits are capable of handling virtually any business rule that can be clearly defined and for which the required data can be made available for retrieval from a table, database, or other electronic source.

Quick Key offers four sets of field validation rules.

1. **Standard Generic Rules** -These are the simple rules that apply to every field and describe summarily the nature of the field. The different types currently supported are:
 - **Generic Data Types** - Fields can be specified as being one of several different data types and are validated as such. Some of the more commonly used field validation types are phone number, zip code, date, amount, and social security number.
 - **Specific Data Types** – Fields can be pre-configured to only allow certain characters to be a part of the data entered. For example, if a field can contain

any numeric character and the letter 'M', this validation rule will ensure only those characters are entered as a part of this field.

- **Range** – Numeric, date, and amount fields can have a range value applied to them. This will ensure the information in this field falls between the values allowed for the range check.
 - **Field Data Length** – The minimum and maximum number of characters allowed in a field can be set.
2. **Table Lookup Rules** – Any field can be validated through a file lookup. File lookups support any format containing single- or multi-fielded, character delimited data. Files can contain extraneous data and do not have to be formatted specifically for use by File Validation. Rather, any common column within the file can be used for performing field validation. Moreover, *Quick Key* offers a convenient way to enrich the tables. For instance, as new data are discovered that were not part of the table, they are added automatically to the table to be accessed in future attempts.
 3. **Database Lookup Rules** – Any ODBC compliant database can be used to validate field information. Through the use of a SQL like statement, it is possible to specify a table and column within the database that will be used to ensure the field information is contained within the database.
 4. **Programmed Rules** - These are the more sophisticated rules, and they will be programmed for each field in the appropriate user exit supplied. Such programming is simple and either technical team may perform it.

In addition to single field validation rules, *Quick Key* offers inter-field validation rules. This is accomplished by programmatically applying pre-established rules between the fields in the form. Although many standard editing features are built within the system, on occasion user exits are required. The preferred programming language for all user exit rules is Microsoft .Net. The choice of Microsoft .Net as a programming language for the user exit rules (as opposed to some proprietary programming language) was done judiciously in order to adhere to open systems and industry-standard principles.

Quick Key also allows the user to attach a note to any specific image within the submission. This note will remain with the image, and when the submission is routed to any other queue, including review and repair, they will be able to view the note as well as the image.

In the *Quick Modules* system, all images of one document are always linked together by the data structures. Thus, *Quick Key* will always allow the operator to “connect,” “view,” and “analyze” two (2) or more images to form one document. All of the visual (client modules destined to be used by an operator) and graphical modules within the *Quick Modules* system provide the ability to zoom easily and readily with one mouse click. We designed these zoom features to provide ease in the data entry, image viewing, and overall ergonomics of the product suite.

This is the most common screen used in conjunction with recognition data entry mode and is most useful for image-based whole field correction and validation of the information captured using recognition techniques. The field in question is highlighted due to low confidence from the recognition engine. The image is shown in full context, and the field is to be re-entered in its entirety. Transaction information is shown, along with error message(s) to guide the operator. The error messages are tailored to specific DOR requirements in order to guide the operator to complete the process. All of the information is validated for accuracy using specific business rules.

In Key from Image (KFI) mode, *Quick Key* displays individual pages of a transaction and highlights each

field required for entry. This mode also allows full keying from the image without the need of performing recognition. There are two visual displays selections available by the operator. Portrait mode or landscape modes can be selected based upon operator preference. Within the window pane of *Quick Key*, the operator at any time can easily select a specific image to view within the transaction by selecting the image within the Thumbnail view shown on the screen.

Quick Key can handle a number of common anomalies right there and then, at the transaction level, without holding up the whole batch. This is a great improvement in performance and efficiency and has great positive repercussions system-wide. The following exception conditions can all be handled on the spot in *Quick Key*, without having to resort to sending the entire batch (or even the transaction) to *Quick Review*:

- Form type changes
- Image rotation
- Image manipulation
- Page deletion
- Order swapping within transaction
- Annotation

As with all other modules, all of these actions are noted in the system database and can be reported upon on an as needed basis.

Keying Quality Review

The *Quick Control* module is a statistical sampling tool that allows an administrator to select a percentage of work that a keyer has processed in a selected queue for quality review. *Quick Control* allows DOR to measure the accuracy of *Quick Key* operators and the recognition process within *Quick Modules*. Once initial keying is complete, a randomly selected statistical sample of the data is sent to a queue to be re-keyed by a quality assurance staff member. The information is then compared using measurable metrics to determine overall operator and/or system performance. A DOR administrator will configure *Quick Control* including the desired percentage of work to be reviewed using a graphical user interface (GUI) that is simple and easy to use.

Quick Control can be set to trigger intermittently throughout processing or on a schedule, such as a specific time of day, or on a certain day of the month. Reports are generated to compare metrics on the accuracy of the individual keyer, the time required for a particular keyer to enter a specified batch, the integrity of an individual batch, and recognition on accuracy. Reports are generated by batch, by submission, by page, and by field, giving DOR a wide variety of options on which to collect performance and integrity information.

Electronic Remittances

As part of the data validation process, remittances are validated and balanced within the transaction. Check viewing is restricted to users by login privilege. Checks along with forms are encrypted in the SQL database and can only be accessed by an application for viewing or printing. Standard *Quick Modules* features allow a user to annotate or redact a check or document images.

Quick Check 21

The solution proposed to DOR incorporates an updated web-based version of the Check 21 process installed today for centralized electronic presentment of the payment items for deposit electronically. Within the Fairfax Software solution, the *Quick Check 21* flow consists of three different modules. The first module controls which information is gathered from the database and

generates the Check21 file, also known as an “X9.37” or “937” file. The second module transmits the Check21 files to PNC Bank, listens for acknowledgements from the bank, and updates the status of transmitted items. The third module provides Check21 reporting, the ability to fix rejected items and deal with any issues that may arise in the process

The Check 21 process provides electronic deposit to as many deposit banks as is necessary to fulfill the DOR’s needs. Image Quality Assurance (IQA) is performed for each set of image (937) records to ensure compliance to Federal Reserve standards for electronic deposits. This includes:

- An individual item must have corresponding front and back image segments.
- Each image segment must have a minimum resolution of 200 dpi.
- Each segment must be black and white and in the TIFF 6.0 CCITT Group 4 compression format.
- Missing/torn corners analysis is performed to determine if any of the document’s four corners are either folded or missing.
- The document length is calculated by dividing the horizontal pixel count by the pixel density (dots per inch) to ensure it is within standard check length specifications.
- The document height is calculated by dividing the vertical pixel count by the pixel density (dots per inch) to ensure it is within standard check height specifications.
- Document skew is measured to determine that the image is of sufficient orientation and presentment.
- Pixel count is performed to ensure acceptable document image quality and noise ratios are achieved and that an image is not too dark for presentment.

Quick Check 21 File Generator

The Check21 File Generation module runs as a service without any user intervention and is controlled by an XML configuration file. This configuration file can be edited to change the behavior of the service. The module can be set to query the *Quick Modules* Check 21 database at whatever time and frequency required. By default, all checks that are currently ready to be processed are put into the Check21 937 file. If business rules require checks to be held for a specified reason, the module can accommodate those needs.

Once the range of data has been specified, all of the necessary information is pulled from the Check 21 database and a Check21 937 ICL (Image Cash Letter) file is created. All of the data that has been pulled within the database is marked as “Processed” to ensure that it does not get sent twice. The *Quick Modules* Check 21 process also compares transactions against the database to ensure no duplicate items exist and perform other validations of the transactions (example no check can be for zero amount). Prior to transmission, any required inclusion of data such as check amount or endorsement can be annotated into the check image by the *Quick Modules* system. The completed Check21 ICL file is then placed in a specific folder (DOR specified) to await transmission.

Quick Check 21 Communicator

The communication portion of the Check 21 flow consists of two processes:

- **Transmitter**
The Check 21 transmitter will automatically send any ICL files that have been processed during the day according to the configured schedule. Files can be collected and sent to the bank all at once, or can be sent as multiple files throughout the day. The transmitter supports FTP w/ PGP encryption, SFTP, FTPS, and HTTPS transmission methods to ensure secure transmission of the data.
- **Receiver**
The Check 21 Receiver listens for acknowledgements from the bank to determine whether

or not the file was accepted or rejected. The actual type of acknowledgement is defined by the bank and is usually either an email or a file that is captured by the Check 21 receiver and interpreted. If a file is accepted with no errors, then all of the checks that were contained within the accepted file are flagged as “Accepted” and are reported as such by the bank. Upon receiving notice through the acknowledgement process that any item was rejected by the bank, the Check 21 system will mark the rejected item(s) as such and adjust totals as necessary to match the bank’s records.

These rejected items are then resolved using the systems Deposit Monitor process.

Quick Check 21 Deposit Monitor

Deposit Monitor is an operator task item for the Check 21 process which provides reports on check aging (if checks are not immediately deposited), invalid checks, and the deposits sent through Check21. It also provides functionality to fix rejected items and to mark them for redeposit. Deposit Monitor tracks the deposits after they have been created. Any of the data tables shown in Deposit Monitor can be exported to a Comma Separated Value (CSV) file.

The operator is capable of viewing the following types of reporting/status:

- Daily and Weekly Summaries
- Pending Deposits, Deposits by Date, Deposits by Account
- Pending Items, Rejected Items, Aging Items, Invalid Items

Forms and Batching

Virtual Batching

To reduce and eliminate many presorts before scanning, items are scanned in the date order they are received in the mailroom and extracted. Most of our tax and revenue customers will sort money returns from no-money returns so that money transactions are scanned first.

Quick Modules performs intelligent form classification on each and every image received. Virtual batching of the individual transactions is electronically performed by *Quick Modules*, where like forms are grouped together for application of appropriate business rules and workflow assigned to those types of forms.

Quick Modules’ strong and highly accurate classification capability allows intermixed forms to be identified and electronically grouped into similar batches. As a database centric product, *Quick Modules* allows clients to process transaction and/or batch mode to best suit the business process.

Unlike file-based systems which can only perform batch processing, Quick Modules provides DOR the ability to process all batches scanned as individual transactions. That way, one exception transaction does not hold up the entire batch. In addition, virtual batching diminished considerably the number of sorts required.

Image Storage and Retrieval

Images are encrypted and stored in the file server and can only be accessed by a *Quick Modules* application by authorized users. All user interactions are tracked in an audit trail showing the before and after state of any data that was keyed or changed by an operator or an automatic process.

All transaction images are available for viewing and are displayed as a thumbnail. Select the thumbnail to select the image for viewing.

Reporting and Dashboard

The *Quick Workflow Monitor* module provides real-time administrative and management oversight into the

current performance of the system of the *Quick* Modules software. Every process within the proposed system and its associated queue(s) can be monitored. If desired, any transaction within any queue as well as the details associated with the transaction can also be viewed including a complete detail of the transaction and viewing transaction images.

The *Quick* Workflow Monitor enables the operation management viewing of the number of transactions in a queue, the status of each transaction and associated documents, the contents of each transaction and any errors that occurred in any transaction. *Quick* Modules logs actions undertaken on all transactions into log files for each module in the system, to include date and time and type of message. This information may be accessed in real-time and may be displayed using *Quick* Workflow Monitor.

Quick Modules relies heavily on log files to inform the system administrator of the progress of the various operations that it performs. Particularly, all error and exception conditions are logged.

Quick Modules keeps a historical database table that contains ALL actions undertaken on the transaction, on a module by module basis, to include the following information:

- Date and time of transaction check in
- Date and time of transaction check out
- Operator ID
- Length of processing

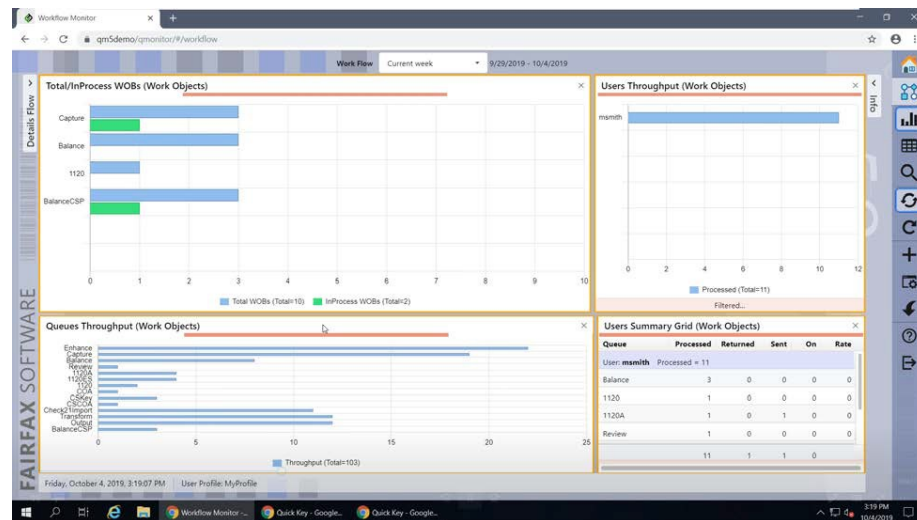


Figure 11 – Quick Workflow Monitor Workflow Page

Quick Reports

Reports are generated using Microsoft SQL Server Reporting Services (SSRS) and displayed on the screen. Reports can be downloaded in a variety of formats including Word, Excel, PowerPoint, PDF, TIFF, MHTML, CSV, XML. Any field defined in the *Quick* Modules SQL Database is available for reporting. Reports can be requested on demand, run automatically (i.e. whenever output is complete) or on a set schedule (i.e. every day at 3pm).

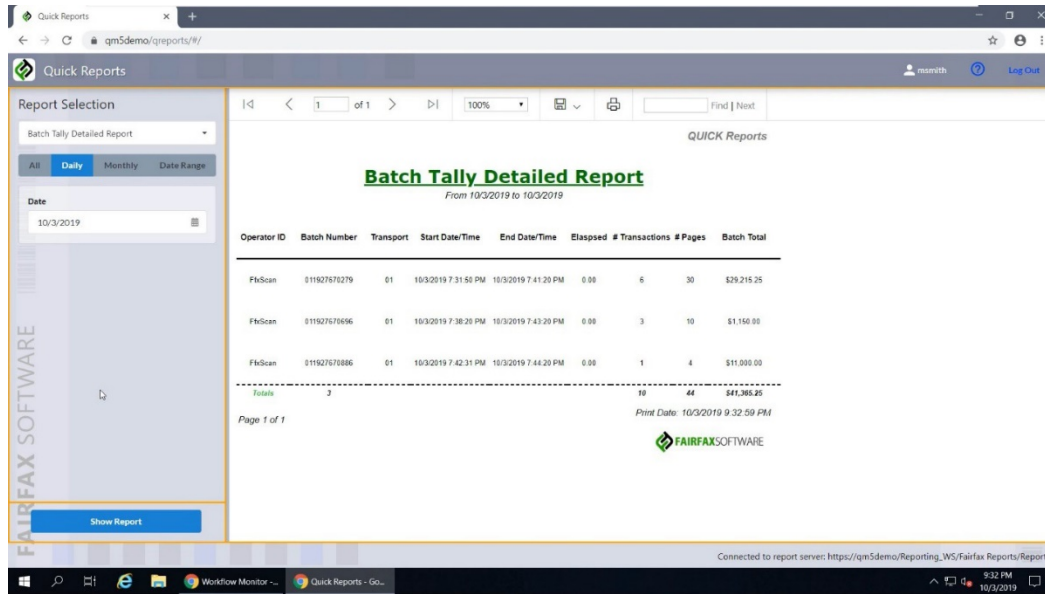


Figure 12 – Quick Reports Screen Example

There are three different type of reports. Batch reports that track the work processed in the system, Audit Reports for Manual Operations, and Audit Reports for Automatic Operations.

Standard reports include:

- Batch Tally Detailed Report
- Batch Tally Summary Report
- Output Report
- Inventory Aging Report by Queue
- Scanning Report
- Transaction Kill Rate Performance Report
- Form Identification Accuracy Summary Report by Batch
- Form Identification Accuracy Summary Report
- Data Change Tracking Report
- Data Entry Operator Performance Report
- Transaction Balancing Operator Performance Report
- CAR-LAR Recognition Performance Report
- Character Recognition Accuracy Summary Report
- MICR Recognition Accuracy Report
- Character Recognition Accuracy Detail Report

Workflow, Data, Process, and Transaction Flows

Quick Modules Studio (QMS)

This module is responsible for setting and configuring the entire *Quick Modules* system, in a highly intuitive, graphical, and user-manner. *Quick Modules Studio*, referred to as “QMS,” is an administrative tool used to manage and setup the solutions required to properly implement *Quick Modules*. It serves as a centralized development environment that allows the development, testing, and deployment of applications within *Quick Modules*. Several features make QMS unique and tailor made for forms and remittance processing industry.

- The development of applications can occur outside the production environment of *Quick Modules*. This allows developers to maintain the system without the need to interrupt production activities.
- They system allows the user to have multiple “builds” or environments. For example, oftentimes users require a development, test, and production environment. With QMS,

the developer can easily maintain all three environments and at any time roll back to a previous build should the need arise.

- Designed to be intuitive, QMS offers a graphical workflow setup and design.
- Developers can maintain a library of user validations and rules that are common across all forms and/or applications.
- Within QMS, the user is allowed to set up all fields needed for recognition, as well as test the accuracy of the system for feedback and optimization prior to deployment.

QMS is the single location for all job setup - from forms and remittance processing to security for users, test environments to designing workflows. Designed for administrators and non-developers, QMS is a separate program with tools incorporated to save time and provide a technical, safe environment for creating new builds. Each “build,” in turn, becomes a *Quick Modules* solution.

QMS allows the system to save more than one build for *Quick Modules*. These builds contain the many rules and criteria needed to run the *Quick Modules* system and are accessed through the Home Page of QMS. Everything from form fields to validation rules, what constitutes a batch to audit reporting, security settings to step-by-step workflow definition. Current builds are in production while previous builds can be saved and accessed later on, if needed. One build could be the test environment; another could be the production environment. It is easy to transition to an older, different build, when necessary.

When a build is selected QMS informs the administrator of the build number loaded and not the current deployed solution. The administrator can examine the previous builds without affecting the deployed solution, in production, test, or development environments. This allows the administrator to freely examine previous forms or rules without deploying the solution. If required, any previous builds can be re-deployed to replace the current deployed solution.

In QMS, administrators have the ability to export and import solutions as well. For example, a previous build from the production’s environment can be selected, exported, and then imported into a test environment in order to perform additional testing without affecting the production environment. The export feature in QMS combines all necessary files, including forms, rules, workflow, and creates a single file that can be imported into another *Quick Modules* environment. The exported file can also be sent to Fairfax Software for troubleshooting purposes.

As you work on solutions (editing validation rules, adding forms, adjusting queues, etc.), the system is not affected until you deploy the newly configured solution. In this way, any changes made are not in effect until the System Administrator decides that all is well and the changes can be implemented, after testing, etc. Further caution is encouraged by having a save and restore feature for deployment. The system can be saved and restored later on if the new configuration needs to be discarded.

Validation Rules

Validation rules are easily setup, many without the need of programming and become libraries to the application(s) that can be selected and maintained within the system. For each form and field within the form, the user is able to set the specific business rules associated with that dataset. Should a customized rule be required, it is easily added to the table and can be selected. All business rules are stored as libraries for future and common use across all applications.

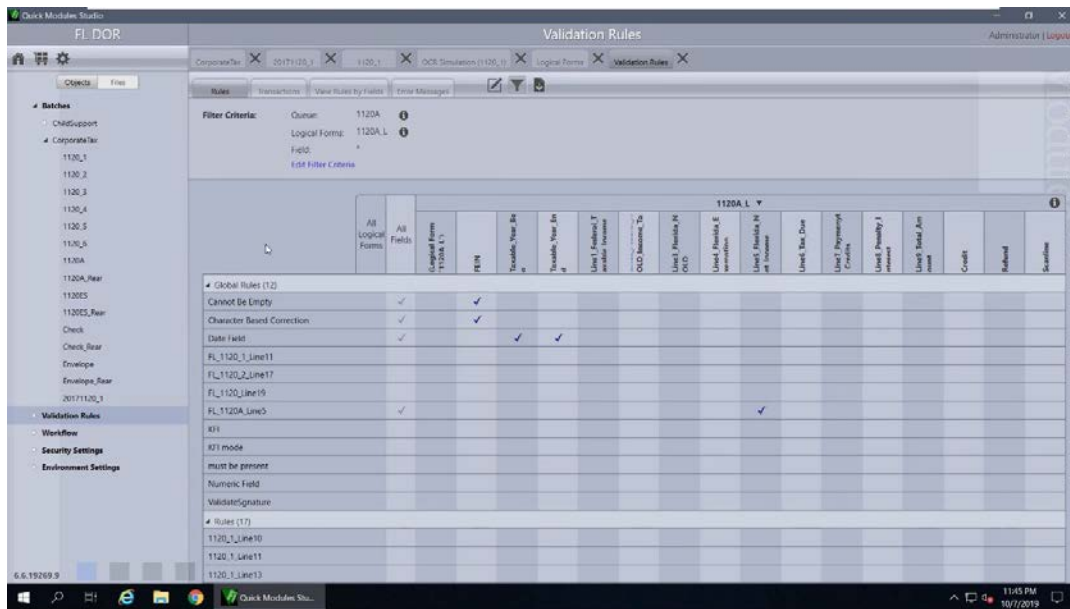


Figure 13 - Validation Rules Example

Because it is Web-based and is used in an Internet browser, the QMS user-friendly interface is easy to manipulate. You can also have multiple pages open at one time. For example, you can have two forms loaded and be able to copy the fields from one form page to the other form page. Another example of its ease of use is the ability to test the recognition on a form while designing the form.

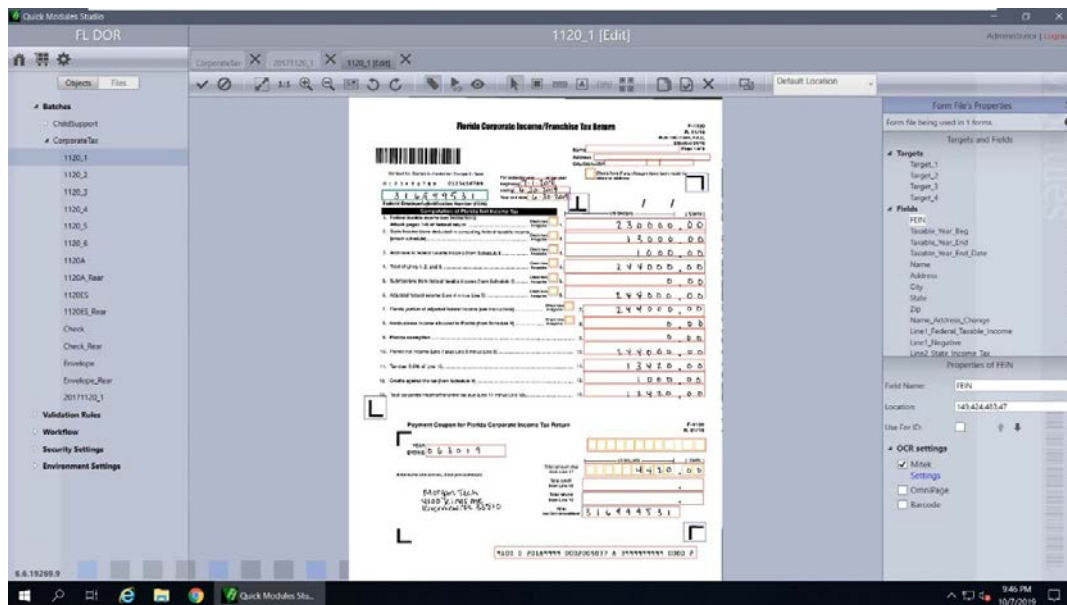


Figure 14 – Defining Fields for Recognition

Graphical Workflow Management

You can also develop and manage the *Quick Modules Workflow* in QMS. This includes creating queues for work and rules associated with each queue and workflow. The Workflow Designer provides access to everything needed to create a workflow. You can add processes easily and edit an existing process. The designer provides a graphical display of the logical flow of the system. At the highest level, the designer can link defined processing groups for the intended flow of the work

through the system.

Queues are defined that allow the system to route and segment work based upon the needs of the client. For example, a user may have multiple queues that consist of a Balancing Queue, consisting of work specific to the balancing and validation of check amounts for quick verification in order to speed deposit as well as any number of form queues specific by form type to ensure operators work similar form types for speed of entry. Other queues may be created for such specific tasks as W2/1099 entry/validation, correspondence review, etc. Using the intelligence of the *Quick* Modules QMS development environment, the user can set a virtual batching process that allows intermixed form scanning while segmenting the work to the users electronically. The system can re-associate all the transaction into batches prior to output.

Within each process, the developer can further define the exact business rules and flow of work through the system based upon a set of rules. Because it is a graphical interface, the workflow is defined by linking processes to create the overall workflow design. The screen below shows just one process in the above three processes defined.

The process in this example shows the scanned document going through *Quick* Enhance and then, through *Quick* Capture if the form is properly identified by the recognition engine. If the form is not automatically identified, it must go through the manual identification process first before going into *Quick* Capture. This is just one process in the workflow. Workflows can have several processes in them. All of this is managed and defined in QMS.

User Roles and Responsibilities

Groups of users can be defined in QMS for *Quick* Modules. Groups of users have different permission levels in terms of accessing features of the system. This is another method of providing security for the overall system.

Security for QMS is achieved through unique user names and passwords, which are customer configurable by the Administrator. Security is also compatible with Active Directory allowing DOR to use existing AD group assignments.

Data Retention and Archival

All information related to document types, date scanned, etc. is stored in the systems database. *Quick* Purge is used to delete images and/or database information based upon form type, date, and other types of parameters based upon DOR requirements in order to maintain the health of the proposed system. This can be configured as an automated process that occurs periodically (i.e., once a week) or manually when initiated by the operator.

Once the purging process begins, it first determines which images need to be removed from the system. If the images reside in on-line storage it wipes them and frees up this space for use in continued production activities. It then wipes this information from the database. The information can be purged by date range if desired.

Quick Modules Distinguishing Feature Set for DOR

The following list of thirty (30) Fairfax Software advantages enumerates the distinguishing characteristics that set apart *Quick* Modules from any competitive products on the market, specifically for a state tax and revenue solution:

✓ <u>Workflow Advantage Fairfax Software:</u>		✓ <u>Look-and-Feel Advantage Fairfax Software:</u>	
1.	Form and remittance processing in single user interface and in the same common workflow and the same common database.	18.	Common web-based Interface across all modules – <i>Quick</i> Key, <i>Quick</i> Review and <i>Quick</i> Check21 <i>Deposit Monitor</i> .
2.	Database driven workflow, database-centric architecture.	19.	Provides complete system status visually in graphical dashboard.
3.	Transaction based, not batch based. No waiting for an entire batch to complete before next step in workflow. No exception transaction holding the entire batch up. Also, business rules are available at the transaction level and batch level.	20.	Ability to look at object in detail while resolving system issues.
4.	Visual workflow with flowcharting converting into business rules.	✓ <u>Configuration and Setup Advantage Fairfax Software:</u>	
5.	Workflow engine supports both batch and transaction level processing seamlessly.	21.	<i>Quick</i> Modules Studio (QMS) provides the administrator a place for creation and testing... like an artist's studio. Graphical design allows visualization of workflow for setup and testing and then deployment. Ability to deploy solution directly from QMS and keep previous historical builds for indefinite amount of time.
6.	Provides up-to-the-minute ad-hoc history of transaction process along with flow history of work object.	22.	Set up of users and user groups with specific permissions to each for privileged access to select sections of the system, data, and images commensurate with permissions.
7.	Multi-queue keying allowing separate keying of data by operator with rule-based keying.	23.	Common rules library for selecting business processing across all applications.
8.	Ability to put work object on hold and later retrieve it by ID. Ability to suspend work objects from being processed.	24.	Technical support is streamlined because all programming is in one spot.
9.	Ability to view queues throughput for a given day.		
✓ <u>Business Rule Advantage Fairfax Software:</u>		✓ <u>Security Advantage Fairfax Software:</u>	
10.	Built-in validation rules, including math blocks, reducing or eliminating need for custom code.	25.	Secure with encryption at rest and in transit following FIPS 140-2 Standards.
11.	Batch integrity rules inherent to and drawn from real life tax processing scenarios.	26.	Ability to set audit and security requirements within one environment.
✓ <u>Image Processing Advantage Fairfax Software:</u>		27.	Allows form type filtering and context searches.
12.	Ability to annotate images.		
13.	Ability to redact images or parts of the images.	✓ <u>IT Infrastructure Advantage Fairfax Software:</u>	

14. Thumbnail images for active transaction.	28. Eliminates need for installing software at workstations.
15. Flexible data correction (allowing multiple operators working on the same transaction simultaneously).	29. Do work from anywhere at any time thanks to web browser client mode. The thin client architecture allows clients to run using standard web browser in HTML5. Users access system via common and secure web location. Allows access and processing to occur virtually anywhere at any time with better control than in co-centric location.
16. Provides thumbnail as well as full page image display.	30. Multi-tier architecture promotes data isolation ensuring that data such as database, images tracing and audit are not directly accessed by applications.
17. Multiple images can be displayed in data entry.	

3.0 Application Support

Respondents must describe their proposed methodology for meeting the Application Support Scope of Work described in Section 1.4.2 Application Support and in the requirements described in Attachment F.

The following should be considered within the Respondent's response:

- Remote Data Entry Support
- Defect Resolution
- Release Management
- Change Management

Fairfax Software Response

Remote Data Entry Support

Fairfax Software has developed a unique remote data entry capability to support our clients with secure work from home needs. Fairfax Software can also provide DOR's remote keying as a service without compromising security or needing to access sensitive taxpayer information. A workflow driven process called *Quick Key Secure* can be 'turned on' by adding it to the *Quick Modules* workflow whenever DOR needs keying assistance.

Quick Key Secure

Quick Key Secure module provides secure remote keying of data fields. For data security and to prevent the remote keyer from viewing sensitive or Personally Identifiable Information (PII), all data presented to the keyer is randomized and restricted to snippets from the original image that shows data to be keyed. The keyer sees a ribbon of random snippets from multiple documents and has no ability to view the entire image of the document or know what document they are keying; they simply key the data they see.

As data is keyed, business rule validation takes place to extent allowable. For example, a keyer is presented with a numeric field, only numbers can be keyed. The system will report an error if the keyer enters an alpha character. If the entry results in a balancing error, the keyer will not be notified because they have no access to transaction. Fields can be subdivided and presented to different keyers to prevent the keyer from knowing context of the data. *Quick Key Secure* automatically creates the snippets and transfers them to the remote keyers. When the results are securely returned, data is populated into the proper database record and the transaction is released back into the *Quick Modules* Workflow.

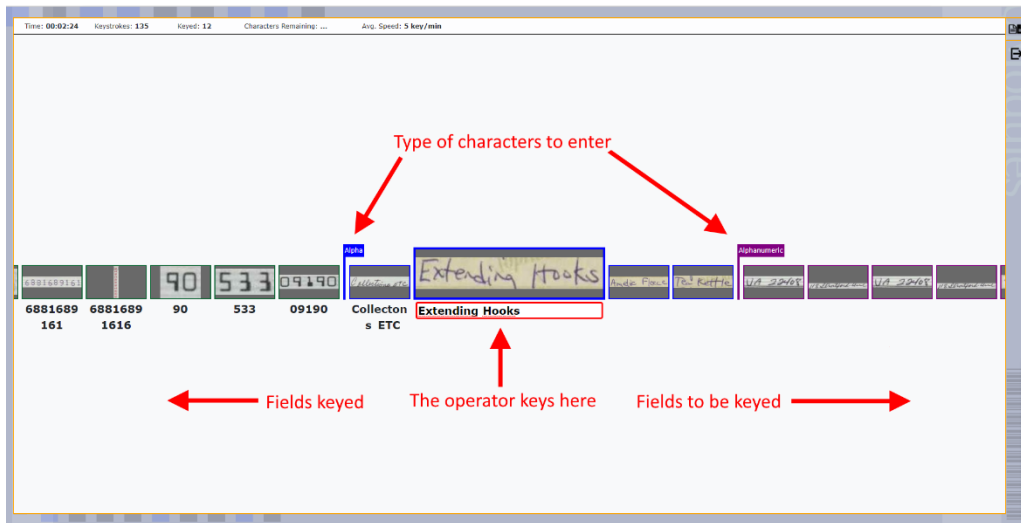


Figure 15 – Quick Key Secure Entry Screen

Remote Keying Services (Option)

Remote Keying Services provided by Fairfax Software will be performed by Fairfax Software employees that have passed criminal background checks. Services will be provided in the Tampa facility.

Keying turnaround will be in 24 hours from the receipt of the data. Keying results will be verified internally using the *Quick Control* module functionality that allows a random sample of work from a given keyer to be keyed a second time and compared for quality.

Based upon the 2019 keystroke volume shown within the RFP on page 16, Fairfax Software can offer our Remote Keying Services at a rate of \$0.0105 per keystroke. This pricing includes licensing and use of Quick Key Secure for the Remote Keying Services.

Defect Resolution

One of the foremost responsibilities of our Project Manager is to produce a comprehensive test plan to the DOR project manager. The primary purpose of the test plan is to ensure the system delivered meets the requirements as defined in the detailed design, requirements traceability matrix, and the RFP. The test plan includes enough real processing scenarios in User Acceptance to uncover any gaps or discrepancies between the technical specification and the business requirements. Test plans and their related reporting mechanism should be thorough enough to make every effort to avoid introducing new issues while efficient enough to address issues promptly.

Once the unit testing is done, the software for the subsystems will be tested individually and evaluated according to the test cases and scripts that have been developed. The scripts will be developed from the detailed requirements document and will be expanded to include any new requirements that are developed before the testing starts. After this first level of testing has been completed, integration testing and systems testing will be done. Should any errors be detected, or modifications be required, regression testing will be performed to ensure the operational integrity of the system.

Tests are developed around system specifications derived from the technical requirements in the request for proposal and during the joint application design sessions between the Fairfax Software project team and DOR. It is strongly suggested that the current system and the new system run in parallel for a specified number of days, test scripts will be developed that will compare like results between the two systems. Standard features to be tested include:

- Interfaces between the various subsystems
- The functionality of each hardware component
- Baseline throughput matrices and test for additional capacity (including output files and ICL's)
- Contents of various plans and manuals against the systems requirements and the test scripts
- Verify that test scripts are consistent with requirements
- Verify that the test cases are consistent with the test scripts
- Verify that the test scripts are consistent with the requirements
- Reports
- Any audit features of the system
- Systems and operational requirements
- Security requirements

As part of Fairfax Software's rigorous quality assurance methodology, we routinely apply the following tests to our solution in various stages of the solution development lifecycle. The entirety of the Professional Services Department fully understands the procedural aspect of our testing methodology and is required to apply it at the individual level as well as the departmental level. The most important rule is that nothing gets delivered to any customer for any reason no matter how small without being run through the following testing steps.

- Unit Testing
- Integration Testing
- System Testing
- Regression Testing
- Acceptance Testing

Fairfax Software employs a strict criteria methodology for accepting or writing a ticket against any given test case. But to understand our methodology, we would be remiss if we do not explain the hierarchy of our responsibility vis-à-vis the QA function at large.

The QA Director's primary job is to ensure that appropriate, effective, and exhaustive test cases and test scenarios are designed, that they are processed in a methodical way, documented properly, and that they meet DOR's business needs and objectives. A secondary function of the QA Director's is to sign off on tasks as being properly tested by the QA team and that they meet the quality standards of Fairfax Software before providing fixes to DOR. The bar is set high. We have metrics that report the number of tickets that passed muster but were passed in error, and the tickets that did not pass and returned to the project team, and the number of iterations of each type. The QA staff is very conscious of these analytics and is airing on the extra safe measure of not passing false positives or returning properly functional fixes to the project team.

Reporting Defects

The DOR has three methods to reach Fairfax Software's Support Services Team.

- Phone: 877-627-8325
- E-Mail: Helpdesk@FairfaxSoftware.com
- Web: RT/ FAST – Fairfax Account Support Tool via our web site www.fairfaxSoftware.com

Regardless of the manner in which Fairfax Software receives a request for support, all calls are logged within the Fairfax Account Support Tool (RT/FAST). In doing so, Fairfax Software as well as the DOR is able to monitor and track all issues and provide a history of the actions taken. This historical information is available and used on a regular basis for account reviews by the Fairfax Account Representative with the DOR on a regular basis to ensure the continued health and operational review of the system.

Upon logging the request into the online system, the DOR can assign Severity Levels to each problem request and upon resolution of the issue, will close out the call. Part of delivering excellent customer service, is offering the customer and engineer a path to escalate issues that are difficult to resolve. This escalation process ensures that all parties have the necessary support they need in order to reduce the effect on the customer's production environment.

The following chart provides Fairfax Software's Severity Levels, resolution times, and escalation points.

Severity	Problem Type	Response
1	Critical; impacts production or conditions severely affect service, capacity/traffic: <ul style="list-style-type: none"> • System down • Electronic Deposit failure 	Contact customer within 30 min FAST status every 2 hours Resolve within 4 bus. hours Escalate to the Director of Support Services after 2 business hours Onsite after 16 business hours.
2	Major; impacts daily operations; conditions that seriously affect system operation: <ul style="list-style-type: none"> • Very slow batch processing • Partial processing limited • Repeated errors requiring extra processing 	Contact customer within 30 min Provide status every 8 hours. Workaround in 6 business hours Resolve within 16 bus. hours Escalate to the Director of Support Services after 4 business hours. Onsite after 4 business days.
3	Minor; no immediate operational impact; conditions that do not significantly impair the function of the system: <ul style="list-style-type: none"> • Defined as a minor problem that exists with the system, but the majority of the functions are still usable, and some circumvention may be required to provide service. • Batch related issue. • Involves a minor portion of the overall process. 	Contact customer within 30 min Workaround in 12 business hours Resolve within 5 bus days Escalate to the Director of Support Services after 2 business days. Onsite after 30 business days.

4	Menial: requires answer to questions, requests or change requests. No effect on production or mission critical subsystems. <ul style="list-style-type: none"> • Test or Dev environment modification • Documentation, software or other requests • Questions not related to production processing 	Contact customer within 30 min Workaround in 5 business days Resolve based on customer request. No escalation needed. Onsite 2 business weeks after scheduled period.
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Automated Defect Tracking

Fairfax Software Request Tracker (R/T) tool is used to produce reports of various types that suits each state tax and revenue customer's business needs. RT produces standard reports (for internal Fairfax Software consumption and along our criteria for quality) as discussed above, and custom reports that are sent to the customer on a daily or weekly basis during each phase of the testing period. DOR will have access to R/T and can monitor progress on ticket resolution.

Release Management

Quick Modules is developed and maintained internally by Fairfax Software's Engineering Group. A software maintenance fixes and releases are provided in a professional, timely manner, as part of our annual support fees. Moreover, Fairfax Software coordinates with DOR to manage the release of software fixes. Fairfax Software engineers perform testing on the *Quick Modules* system whenever new updates are available, to ensure compatibility with the latest software, such as Desktop and Server OS updates, and MS SQL Server database. Any security related patches, as a result of Server OS vulnerabilities for example, or any other software vulnerabilities, will receive the highest priority for system enhancement and patch releases to our customers.

The Fairfax Software QA team will vigorously test all patches and Service Packs internally before they are provided to DOR. Any security related incident, or defect, and all related patches to resolve the defects are assigned ticket numbers and tracked in our internal tracking system called Request Tracker (R/T). The RT system allows Fairfax Software and DOR to monitor progress on any RT ticket related to the proposed solution.

Fairfax Software tracks all bugs from reporting to resolution using the RT system. New releases will be deployed following DOR's regression testing procedures.

Separation of Duties

Fairfax Software assigns duties based on roles in the company and qualifications. Promotion of code / changes to the production environment is restricted to engineers outside of the development team. An internal ticketing system is used to track the change request and approval trail. A source code repository is utilized for maintaining versions and control over the source code, and only core engineers have access to the source code for the proposed software.

Fairfax Software maintains a list of all hardware and software assets that must be supported. Fairfax Software prioritizes patching based on the severity of the vulnerability the patch addresses. Patches for Fairfax Software applications are tested to ensure compatibility before notifying customers. Only security related patches are enforced. Fairfax Software will follow the patching timeline based on DOR's patch management policy.

Change Management

The Change Management Plan establishes how changes will be proposed, accepted, monitored, and controlled. The change control procedures identified in the Change Management Plan will govern changes to the baseline project scope including changes to the work breakdown structure and requirements from project inception through to completion. In addition, the change control procedures will govern changes to the baseline schedule and cost. This Change Management Plan addresses the following activities:

- Identification and inventory of change requests
- Analysis and documentation of the complete impact of requested changes
- Approval or rejection of change requests
- Tracking changes and updating of project documentation to account for approved changes

Fairfax Software requires a change request for all changes. Even a small request should be documented and logged so that all parties are aware of changes that are made.

Procedures for DOR to make a Change Request

Fairfax Software is open to change requests at the behest of DOR. In fact, we welcome the opportunity to augment our system functionality with added features that have originated in the user community. After all, it is through valuable input from our user community that our suite of solutions has grown more capable over time.

We have devised a thorough and documented method for accepting, evaluating, assessing, implementing, and testing each potential change issued by any of our clients. Fairfax Software will document additional or changed assumptions or customization requirements (including any cost and/or schedule impact) for approval/negotiation/rejection by the DOR as a Change Request Form (CRF).

The Fairfax Software Project Manager will submit project change requests, to the DOR designated Project Manager. The DOR Project Manager will review and analyze project change requests and make a recommendation. No changes will be made without DOR written approval.

The Fairfax Software Project Manager will provide a weekly Change Management report. Approved changes will be incorporated as amendments to the project requirements. The following process can be followed if a change to this Proposal is required.

- A CRF will be the vehicle for communicating change. The CRF should describe the change, the rationale for the change and the effect the change will have on the project. When the need for a change to the approved baseline is identified, the change will be clearly defined using the Change Request Form (See Attachment A: Change Request Form). The Requestor completes Section 1 of the Change Request Form and submits it to the Project Manager for review.
- The designated Project Manager of the requesting party will review the proposed change and determine whether to submit the request to the other party. Both the Fairfax Software Project Manager and the DOR Project Manager should be aware of all requests for change. The Project

Manager records the request in the Change Control Log and assigns a change request number to the change request.

- Both Project Managers will review the proposed change and recommend it for further investigation or reject it. A CRF should be signed by authorized representatives from both parties to authorize investigation of the recommended changes. The investigation will determine the effect that the implementation of the CRF will have on price, schedule and other terms and conditions of the contract.
- A written CRF should be signed by authorized representatives from both parties to authorize implementation of the investigated changes. Until a change is agreed upon in writing, both parties should continue to act in accordance with the latest agreed version of the Proposal.

Change Tracking – How DOR is informed of Change Request Status

As part of the project Weekly Status Report, the Change Management Report includes the following information for each requested CRF:

- Change Number - A unique numeric identifier that is sequentially assigned
- Project Name - The project/release to which the change applies
- Created Date - The date the change was identified (MM/DD/CCYY)
- Created By - The name of the person who identified the change
- Title - The short title of the change; how it is commonly known
- Description - The description of the change Assigned To - The individual primarily responsible for the analysis and recommendation regarding the change
- Assigned Date - The date the change was assigned (MM/DD/CCYY)
- Assigned Due Date - The date the change recommendation is to be complete and/or the change recommendation is to be submitted to the DOR Project Manager (MM/DD/CCYY)
- Status Date - The date of the current Status entry
- Status - The current status of the change: Open or Closed
- Priority - The priority of the change: Critical, High, Moderate, or Low
- Status/Notes - The detailed description of the current status of the change and any notes that apply to its progress and resolution
- Impact - The effect the change has on the project scope, quality and schedule
- Resolution - A detailed description of how the change is resolved.
- Resolution Date - The date the change is resolved and closed.
- Sample Change Control Form:

Project Information			
Project Title:		Project Number:	
Project Manager:			
Section 1: Change Request			
Requestor Name:		Date of Request:	Change Request Number:
Requestor Phone:			<i>Supplied by (PM)</i>
Item to be Changed:			Priority:
Description of Change:			
Estimated Cost & Time:			
Section 2: Change Evaluation			
Evaluated by:		Work Required:	
What is Affect:			
Impact to Cost, Schedule, Scope, Quality, and Risk:			
Section 3: Change Resolution			
Accepted	Approved by (Print):	Signature:	Date:
Rejected			
Comments:			
Section 4: Change Tracking			
Completion Date	Completed by (Print):	Signature:	Date:

Figure 16 – Change Control Form

Project Information							
Project Title:					Project Number:		
Project Manager:							
Change Number	Description of Change	Priority	Date Requested	Requested By	Status (Evaluating, Pending, Approved, Rejected)	Date Resolved	Resolution/Comments

Figure 17 – Change Control Log

4.0 Security

Respondents must describe their proposed methodology for meeting the Security requirements described in Attachment F.

Fairfax Software Response:

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5.0 Technical

Respondents must describe their proposed methodology for meeting the Technical Scope of Work described in Section 1.4.6 Technical. and in the requirements described in Attachment F. The following should be considered within the Respondent's response:

- Disaster Recovery/Backup
- Backup and Recovery
- Interfaces
- Technical Documentation
- User/Server Account Management

Fairfax Software Response:

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
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6.0 Training

Respondents must describe their proposed methodology for meeting the Training Scope of Work described in Section 1.4.5 Training and in the requirements described in Attachment F. The following should be considered within the Respondent's response:

- Training Plan
- Training Courses
- Training Manuals
- Ongoing Training Support
- Ongoing ITIL Knowledge Transfer and Transition Activities

Fairfax Software Response:

Fairfax Software places a great deal of emphasis on training as an integral part of the installation process. Fairfax Software firmly believes that the system only produces the expected results when operated by well-trained personnel and that a brilliant solution will only show its illustrious result when operated by personnel familiar with its use and intricacies. This holds true for system administrators and users alike.

Fairfax Software provides all the training necessary to operate the proposed solution and knowledge transfer to allow DOR to assume responsibility for maintenance and configuration of the solution in the future. All Fairfax Software instructors are experienced in the field of system training and have conducted courses on similar systems in the past at dozens of other customers.

Training is one of the hallmarks of our services, and as such, we cannot over emphasize the importance of the training aspects of our solution. In addition to the formal hands-on training, we stress the importance of other types of knowledge transfer like on-the-job training, mentoring, and job shadowing. Training is provided near the rollout of the project to ensure technical and user knowledge of the system prior to production use.

We are including a sample training plan approach below to illustrate our ability to create and implement a comprehensive training curriculum. The specific training plan for the DOR personnel will be a completely tailored curriculum submitted in writing to the DOR Project Manager for approval before training starts.

The following conditions typically govern the training environment:

- Scheduling of courses will be subject to mutual agreement between Fairfax Software and DOR.
- Training will focus on the system on-hand (i.e., how the system works and how it goes about its operations) and not on basic concepts such as OCR/ICR or MS-Windows.
- All trainees will be provided with appropriate manuals, text materials, and course outlines necessary for the specified training.
- Fairfax Software will prepare a comprehensive training plan and submit a written curriculum to the DOR project manager for approval two months prior to training.
- Training will take place at a DOR location.

- Fairfax Software will furnish user and operator manuals for any supplied hardware and software provided under this contract.
- Should the documentation provided under this contract undergo revision or updating prior to system acceptance, Fairfax Software will supply the customer with the revised documentation.

Curriculum Example

System Operation Functions

Class participants will understand System process flows and be able to locate and apply user instructions from the User Manual.

System Administration

Class participants will learn to set and remove new system access, permissions, management system interfaces and perform server maintenance and upgrades.

System Audit Features

Class participants will demonstrate knowledge of the new system process flows and will be able to complete system audit functions.

System Reports

Class participants will be able to access and interpret standard system reports and produce ad hoc reports for standard and non-standard needs.

Train-the-Trainer for both operational and technical staff

Fairfax Software is recommending a Train-the-Trainer approach to all educational activities. Class participants will be able to demonstrate knowledge of the new system, its operation, audit features, reports, and problem resolution procedures sufficiently to conduct training for new employees or re-fresher training for existing staff.

Sample Training Plan

The following is a typical training plan for similar Fairfax Software systems. The training plan for DOR will be a comprehensive curriculum submitted in writing to the DOR Project Manager for approval two months prior to the training. The training plan for DOR will allow sufficient time to meet each of the course objectives.

Operator Training

Target Audience:

Mail Opener and Scanner Operators
Key Entry Operators
Quality Control Operators
Transaction Integrity Review (Exception Handling) Operators
Image and Data Retrieval Operations

Prerequisites

Basic MS Windows concepts

Graphical programs understanding

Materials Provided by Fairfax Software

- Presentation slides
- Software (Fairfax Software Team installed)
- Documentation (application)

Materials Provided by DOR

- One workstation per trainee
- Training room with slide projector and screen

Supervisor Training

Target Audience:

- Supervisors
- Managers

Prerequisites

- Basic MS Windows concepts
- Graphical programs understanding

Materials Provided by Fairfax Software

- Presentation slides
- Software (Fairfax Software Team installed)
- Documentation (application)

Materials Provided by DOR

- One workstation per trainee
- Training room with slide projector and screen

Technical Staff Training

Target Audience:

- Analysts
- System Administrators
- Database Specialists
- Programmers
- Forms Designers

Prerequisites

- Intermediate to advanced MS Windows concepts
- Graphical programs understanding
- Networks and interconnectivity understanding
- Microsoft SQL Server understanding (recommended)
- Basic programming (recommended)

Materials Provided by Fairfax Software

- Presentation slides

Software (Fairfax Software Team installed)
Documentation (application, system, programming)
User Exit function list

Materials Provided by DOR

One workstation per trainee
Training room with slide projector and screen

Training Modules

The Fairfax Software solution provides a complete and separate testing environment used for training purposes. What follows is a list and brief description of all documentation, training materials, classes, instruction, and time schedules provided with our proposed solution:

Training Documentation

End-user and supervisor documentation include the following:

- Any documentation provided by the hardware or software manufacturer.
- Data Dictionary
- *Quick Modules System Administration Manual*
- *Quick Modules Studio Manual*
- *Quick Workflow Monitor User Manual*
- *Quick Key User Manual*
- *Quick Review User Manual*
- *Quick Report User Manual*
- *Quick Check21 User Manual*

Course Schedule and Synopsis

The following is a typical course schedule for a remittance and data capture system. The actual course schedules and content will be developed in conjunction with DOR staff and will include all components of the system proposed inclusive of all system operation, maintenance, supervisory functions, and software modules.

Sample Course Schedule

Day 1

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Operators	Course 101P: System Overview Course 102P: Document Preparation Course 103P: Scanning Course 104P: Balancing (<i>Quick Key</i>) Course 105P: Data Repair (<i>Quick Key</i>) Course 106P: Transaction Review and Repair (<i>Quick Review</i>)	Presentation

Time	Participant(s)	Class Code & Name	Class Type
1:00 – 4:00	Operators	Course 101H: System Overview Course 102H: Document Preparation Course 103H: Scanning Course 104H: Balancing (<i>Quick Key</i>) Course 105H: Data Repair (<i>Quick Key</i>) Course 106H: Transaction Review and Repair (<i>Quick Review</i>)	Hands On

Table 4 - Day 1 Sample Training Schedule

Day 2

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Supervisors	Course 151P: Data Review (<i>Quick Review</i>) Course 152P: Generate Reports (<i>Quick Report</i>) Course 153P: Solution Monitoring (<i>Quick Workflow Monitor</i>) Course 154P: Check21 Deposit Monitoring (<i>Quick Check21 Deposit Monitor</i>) Course 155P: Solution Purge (<i>Quick Purge</i>)	Presentation
9:00 – 12:00	Supervisors	Course 151H: Data Review (<i>Quick Review</i>) Course 152H: Generate Reports (<i>Quick Report</i>) Course 153H: Solution Monitoring (<i>Quick Workflow Monitor</i>) Course 154H: Check21 Deposit Monitoring (<i>Quick Check21 Deposit Monitor</i>) Course 155H: Solution Purge (<i>Quick Purge</i>)	Hands On

Table 5 - Day 2 Sample Training Schedule

Day 3

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Operators	Course 101H: System Overview Course 102H: Document Preparation Course 103H: Scanning Course 104H: Balancing (<i>Quick Key</i>) Course 105H: Data Repair (<i>Quick Key</i>) Course 106H: Transaction Review and Repair (<i>Quick Review</i>)	Hands On
1:00 – 4:00	Supervisors	Course 151H: Data Review (<i>Quick Review</i>) Course 152H: Generate Reports (<i>Quick Report</i>) Course 153H: Solution Monitoring (<i>Quick Workflow Monitor</i>) Course 154H: Check21 Deposit Monitoring (<i>Quick Check21 Deposit Monitor</i>) Course 155H: Solution Purge (<i>Quick Purge</i>)	Hands On

Table 6 - Day 3 Sample Training Schedule

Day 4

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Operators	Course 101H: System Overview Course 102H: Document Preparation Course 103H: Scanning Course 104H: Balancing (<i>Quick Key</i>) Course 105H: Data Repair (<i>Quick Key</i>) Course 106H: Transaction Review and Repair (<i>Quick Review</i>)	Hands On
1:00 – 4:00	Supervisors	Course 151H: Data Review (<i>Quick Review</i>) Course 152H: Generate Reports (<i>Quick Report</i>) Course 153H: Solution Monitoring (<i>Quick Workflow Monitor</i>) Course 154H: Check21 Deposit Monitoring (<i>Quick Check21 Deposit Monitor</i>) Course 155H: Solution Purge (<i>Quick Purge</i>)	Hands On

Table 7 - Day 4 Sample Training Schedule
Day 5

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Operators	Course 101H: System Overview Course 102H: Document Preparation Course 103H: Scanning Course 104H: Balancing (<i>Quick Key</i>) Course 105H: Data Repair (<i>Quick Key</i>) Course 106H: Transaction Review and Repair (<i>Quick Review</i>)	Hands On
1:00 – 4:00	Supervisors	Course 151H: Data Review (<i>Quick Review</i>) Course 152H: Generate Reports (<i>Quick Report</i>) Course 153H: Solution Monitoring (<i>Quick Workflow Monitor</i>) Course 154H: Check21 Deposit Monitoring (<i>Quick Check21 Deposit Monitor</i>) Course 155H: Solution Purge (<i>Quick Purge</i>)	Hands On

Table 8 - Day 5 Sample Training Schedule
Day 6

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Administrators	Course 201P: System Overview Course 202P: Services Management (<i>Quick Workflow Monitor</i>) Course 204P: Balancing Administration (<i>Quick Key</i>) Course 205P: Data Repair Administration (<i>Quick Key</i>) Course 301P: System Configuration & Forms Design (<i>Quick Modules Studio</i>)	Presentation

Time	Participant(s)	Class Code & Name	Class Type
1:00 – 4:00	Administrators	Course 201H: System Overview Course 202H: Services Management (<i>Quick Workflow Monitor</i>) Course 204H: Balancing Administration (<i>Quick Key</i>) Course 205H: Data Repair Administration (<i>Quick Key</i>) Course 301H: System Configuration & Forms Design (<i>Quick Modules Studio</i>)	Hands On

Table 9 - Day 6 Sample Training Schedule
Day 7

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Administrators	Course 201H: System Overview Course 202H: Services Management (<i>Quick Workflow Monitor</i>) Course 204H: Balancing Administration (<i>Quick Key</i>) Course 205H: Data Repair Administration (<i>Quick Key</i>) Course 301H: System Configuration & Forms Design (<i>Quick Modules Studio</i>)	Hands On
1:00 – 4:00	Administrators	Course 201H: System Overview Course 202H: Services Management (<i>Quick Workflow Monitor</i>) Course 204H: Balancing Administration (<i>Quick Key</i>) Course 205H: Data Repair Administration (<i>Quick Key</i>) Course 301H: System Configuration & Forms Design (<i>Quick Modules Studio</i>)	Hands On

Table 10 - Day 7 Sample Training Schedule
Day 8

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Administrators	Course 206P: Server Management (<i>Quick Workflow Server</i>) Course 207P: Output Administration (<i>Quick Output</i>) Course 208P: Transform Administration (<i>Quick Transform</i>) Course 209P: Check21 Administration (<i>Quick Check21 Generator and Quick Check21 Communicator</i>) Course 210P: Services Administration (<i>Quick Input, Quick Enhance, Quick Capture</i>) Course 212P: Reports Administration (<i>Quick reports</i>)	Presentation

Time	Participant(s)	Class Code & Name	Class Type
1:00 – 4:00	Administrators	Course 206H: Server Management (<i>Quick Workflow Server</i>) Course 207H: Output Administration (<i>Quick Output</i>) Course 208H: Transform Administration (<i>Quick Transform</i>) Course 209H: Check21 Administration (<i>Quick Check21 Generator and Quick Check21 Communicator</i>) Course 210H: Services Administration (<i>Quick Input, Quick Enhance, Quick Capture</i>) Course 212H: Reports Administration (<i>Quick reports</i>)	Hands On

Table 11 - Day 8 Sample Training Schedule

Day 9

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 12:00	Operators (Supervisors)	Course 206H: Server Management (<i>Quick Workflow Server</i>) Course 207H: Output Administration (<i>Quick Output</i>) Course 208H: Transform Administration (<i>Quick Transform</i>) Course 209H: Check21 Administration (<i>Quick Check21 Generator and Quick Check21 Communicator</i>) Course 210H: Services Administration (<i>Quick Input, Quick Enhance, Quick Capture</i>) Course 212H: Reports Administration (<i>Quick reports</i>)	Hands On
1:00 – 4:00	Operators (Supervisors)	Course 206H: Server Management (<i>Quick Workflow Server</i>) Course 207H: Output Administration (<i>Quick Output</i>) Course 208H: Transform Administration (<i>Quick Transform</i>) Course 209H: Check21 Administration (<i>Quick Check21 Generator and Quick Check21 Communicator</i>) Course 210H: Services Administration (<i>Quick Input, Quick Enhance, Quick Capture</i>) Course 212H: Reports Administration (<i>Quick reports</i>)	Hands On

Table 12 - Day 9 Sample Training Schedule

Day 10

Time	Participant(s)	Class Code & Name	Class Type
9:00 – 10:00	Operators	Recap and Certification	Hands On
10:00 – 12:00	Supervisors	Recap and Certification	Hands On
1:00 – 4:00	Administrators	Recap (Building a sample application and Certification)	Hands On

Table 13 - Day 10 Sample Training Schedule

Sample Course Descriptions

Operator Classes

Course Number	Course Title	Course Overview (Brief)
101	System Overview	Forms Processing Concepts and Vocabulary, System Overview
102	Document Preparation	Transactions with Payment Items, Document Orientation, Document Repair
103	Scanning	Transactions with Payment Items, Document Orientation, Document Repair, Scanning and Operations (Do's and Don'ts in Scanning)
104	Transaction Balancing	Balancing Concepts, <i>Quick Key</i> Interface, Starting & Stopping <i>Quick Key</i> , Logging In and Logging Out, Modifying <i>Quick Key</i> Interface, Balancing Process (MICR Line Correction, Key Review, and Balancing Amount Due and Amount Paid Items), Changing Form Types, Exceptions & Sending to <i>Quick Review</i> , Viewing <i>Quick Key</i> Log
105	Data Entry	Data Entry Concepts, <i>Quick Key</i> Interface, Recognition, Confidence, Validation, Routing and Workflow, Starting & Stopping <i>Quick Key</i> , Logging In and Logging Out, Modifying <i>Quick Key</i> Interface, Keying Process (Keying from Field, Keying from Image), Retrieving & Returning to Queue, Document Skipping and Rejection, Exceptions & Sending to <i>Quick Review</i>
106	Transaction Review and Repair	Data Review Concepts, <i>Quick Review</i> Interface, Logging In and Logging Out, Page Level Reviewing (Moving Pages, Deleting Pages, Printing Pages, Flipping Pages, Rotating Pages, Changing Form Types, Scanning/Rescanning Pages), Submission Level Reviewing (Deleting Submissions, Restoring Deleted Submissions, Splitting Submissions), Transaction Level Reviewing (Deleting Transactions, Saving Transactions)

Table 13- Operator Class Synopsis

Supervisor Classes

Course Number	Course Title	Course Overview (Brief)
151	Transaction Review and Repair	Data Review Concepts, <i>Quick Review</i> Interface, Starting & Stopping <i>Quick Review</i> , Logging In and Logging Out, Modifying <i>Quick Review</i> Interface, Page Level Reviewing (Moving Pages, Deleting Pages, Printing Pages, Flipping Pages, Rotating Pages, Changing Form Types, Scanning/Rescanning Pages), Submission Level Reviewing (Deleting Submissions, Restoring Deleted Submissions, Splitting Submissions), Transaction Level Reviewing (Deleting Transactions, Saving Transactions), Viewing <i>Quick Review</i> Log
152	Report Generation	Report Concepts, <i>Quick Report</i> Interface, Starting & Stopping <i>Quick Report</i> , Logging In and Logging Out, Running Reports, Reviewing Available Reports
153	Workflow Monitoring	Workflow monitoring Concepts, <i>Quick Workflow Monitor</i> Interface, Starting & Stopping <i>Quick Workflow Monitor</i> , Logging In and Logging Out, Image and Data Search Process (Constructing and Running Queries, Viewing Images, Viewing Transactions)

154	Check21 Deposit Monitoring	Deposit Monitor Concepts, Deposit Creator Usage, Deposit Creator Configuration, Check 21 Workflow, Check 21 Installation Procedures, Check 21 Prerequisites, Check 21 Service Scheduling, Status Codes
155	System Purge	Using <i>Quick Purge</i> for as needed purging, Setting Up Parameters in <i>Quick Purge</i> , Data Purge Parameters, Image Purge parameters, Expired Data Concepts, Do's and Don'ts in Data and Image Purge.

Table 14 - Supervisor Class Synopsis

Additional technical training is also provided to DOR in order to manage the solution's infrastructure, such as database management, server configuration, starting/stopping services, backup and recovery of the solution.

Ongoing ITIL Knowledge Transfer and Transition Activities

Fairfax Software Project Methodology as well as continued support services model is designed to gather, analyze, store, and share knowledge that exists to not only our personnel but to our clients as well. The knowledge management process ensures that all staff members of our clients have an accurate and sufficient knowledge to be able to understand the solution provided and to be able to identify the value of the solution. During the Project, our team members will provide and document to DOR how the system operates, its configuration, system and operational functions. Our Training plan will be guided by the intent to provide this Knowledge Transfer to DOR prior to transition to the new system for full production.

Appendix 1 to Technical Narrative – Functional Requirements

Fairfax Software *Quick Modules* Solution Description

As a leading provider of tax/revenue processing solutions, Fairfax Software has developed specific best practices that have proven to offer efficiencies in tax/revenue processing. Over the years we have partnered with Agissar and ibml at a large number of State Revenue operations to tightly integrate the INFOPoll® suite of hardware and software with the *Quick Modules* platform to create an industry best mail and document tracking solution.

DOR has been using Agissar's INFOPointe® hardware and INFOPoll® software across the mail sorting, opening, and document preparation processes for many years to help manage the labor and achieve efficiencies. These same Agissar products are commonly deployed by Fairfax at other States and are largely seen as best practice. However, what makes Fairfax unique to other imaging vendors are the enhancements that we can offer through systems integration with the INFOPoll® platform.

These enhancements include tracking the Agissar batch barcodes after the doc prep process and through the scanning process on the ibml scanners. This tight integration allows Fairfax to tie the physical tax documents to their electronic counterparts and report on the full lifecycle of a tax document. The full solution is described below in more detail. Much of it will be familiar, but as you read you will see the enhancements we can offer.

Tray and Batch Tracking Enhancements for Indiana DOR

Mail Opening and Tray Tracking:

At Indiana's Revenue Processing Center, envelopes and flats arrive in USPS mail tubs and trays at the start of each processing day. Following sort, INFOPoll® Tray Tracking Barcodes containing unique identifier values are applied on a *one-for-one* basis to these tubs and trays.

In your future state, INFOPoll® barcodes will follow the documents as they are handled all the way through the scanning process providing a complete chain-of-custody for documents. INFOPointe® Data Collectors and the INFOPoll® Client (desktop) Application will monitor these trays and tubs as they as they move through your mailroom.

The Tax type ID and the respective volume (# of envelopes) contained within these units-of-work are introduced to the INFOPoll® Enterprise Edition System via the INFOPointe® Retrofit Kits on your 2, Omaton high-speed mail openers (206 and 306).

Similar to your process today, the operator of the mail opener will use a hand held bar code scanner to scan their Employee ID, a Tax ID, and the Unique Tray Tracking barcode. Next, they open the mail quickly through the opener. When the mail tray's respective envelopes are completed, they merely need to return the work to its original mail tray or tub, stage it for distribution, and scan the



next unique tracking bar code sheet into the system before running the next mail tray. This process continues until all mail trays and tubs have been both electronically and physically tagged and opened.

The data captured by the INFOPointe® Data Collector is loaded into the INFOPoll® SQL Database in real-time. Management has the ability to see the volumes of “Opened Mail” as it comes into the system via the INFOPoll® Client (desktop) Application and a count of all trays by tax type. This provides the first *Touch Point* in the chain-of-custody and provides an operation with the volume data they need by business line to make staffing decisions for downstream processing. This access to real-time data allows managers to act proactively.

Mail Extraction and Document Prep:

The entire time that opening (milling) is taking place, an Expeditor (runner) is distributing work to the individuals who will extract the contents and perform the required document prep at Agissar ASED’s (All Size Extraction Desks) equipped with INFOPointe®.



The ASED operators begin by logging into the INFOPointe® System by scanning their Operator ID, a Job ID, and the Unique Tray Tracking bar code sheet. They then begin the process of envelope extraction and document prep. Since the operators are retaining 100% of the envelopes, the system utilizes light curtain tracking sensors embedded in the staging tray that holds pre-opened envelopes (from the Omaton). Every time an operator reaches and pulls a new envelope transaction, they break the light curtain and create a count pulse. In order to eliminate the potential for count errors, management is able to configure a time delay by specific Job ID in the Administrative section of the INFOPoll® Enterprise Edition Client Application. This effectively discourages inadvertent count pulses. However, the INFOPoll® Client Application also provides Tray and Reconciliation Reports that allow management to reconcile counts from the ASED against the volume tallied for those trays and tubs at the Omaton.

ASED workstations are designed to provide superior ergonomics and can be customized to best serve the application and customer requirements. The workspace helps maximize productivity through ergonomic comfort. Equally important is the in-the-moment posting of production rates that naturally motivates operators to meet management’s standards for the business line they are processing.

Here’s where our process enhancements begin

Following document prep, the Tray barcodes are currently collected and discarded at RPC. With the enhanced Fairfax process, we will have the expeditor's print new Batch barcodes in INFOPoll® that will be associated with their original tray. Expeditors simply scan the Tray barcode and choose how many batch barcodes to create and who they are creating them for. When the barcodes are printed, they are automatically associated with their tray and the person who performed the document prep. While Fairfax's intelligent capture software minimizes sorts, most operations will want to separate at least the tax documents containing checks from returns. This process allows separations to occur while maintaining the chain-of-custody and tracking within the solution.

Scanning:

Groups of documents of like tax types from different people can be grouped together as long as the INFOPoll® barcode sheets serve as the first document in each prepper's batch. The scanner job will be configured to automatically batch based on the INFOPoll® barcode logic. Inline, the imaging system captures these batch barcodes and automatically triggers the creation of a new batches on the fly. The Agissar Batch ID's, which also includes the mail received date are now linked to the electronic batches, creating a tie between the physical tax documents and its associated electronic record.

We will deploy the INFOPoll® API for Imaging Operations which operates as a headless task that links the INFOPoll® and ibml databases together. When tax documents are scanned, the status of Batches in INFOPoll® are automatically updated to "scanned" and it inserts the scanner operator name for continued chain-of-custody.

By knowing the full lifecycle of a tax document, it allows us to better manage the quality of prepped work. This is a great feature not only because it allows you to report on the quality of prepped work, but it provides a complete audit trail for these documents containing PII and other sensitive information.



Figure 1 – ibml FUSION

Included with the INFOPoll® API is automatic production reporting within the INFOPoll Client Application on ibml scanner statistics.

What defines the Fairfax Software Agissar/INFOPoll® solution is complete accountability of *people*, *equipment*, and *documents*. Quite simply put, the INFOPoll® System gives management the data they need to be successful and provides immediate feedback to the individuals performing the production task of mail extraction and document prep. This motivates employees to achieve standards and helps foster a self-managing environment.

Quick Modules Workflow

All modules that are part of the *Quick Modules* solution are guided by *Quick Workflow* to determine routing of work based upon selected business rules. Our workflow is composed of the following stages that, when interfaced together, will ensure that all DOR requirements are met:

- Image and data input and acceptance from virtually any scanner, including remote scanners
- Image enhancement and document identification/classification
- Automated recognition and data capture
- Routing of images to appropriate work queue
- Balancing/reconciliation and data correction
- Real-time lookup to identify suspended transactions
- Batch integrity review and repair
- Electronic presentment of funds for depositing
- Image and data output
- Database population
- Robust reporting and workflow monitoring

One of the most attractive features of the *Quick Modules* solution is its modularity, redundancy, and fault tolerance. There are two types of modules that are utilized in our *Quick Modules* solution. The first is grouped into those modules that are workflow controlled. These consist of server modules that require no operator intervention and thus, run unattended. Operator attended modules such as *Quick Key* require operator tasks to be performed and thus, present themselves as thin-client graphical user interface modules designed to accommodate high performance entry and validation of data entry. The following is a simplified workflow of the *Quick Modules* system.

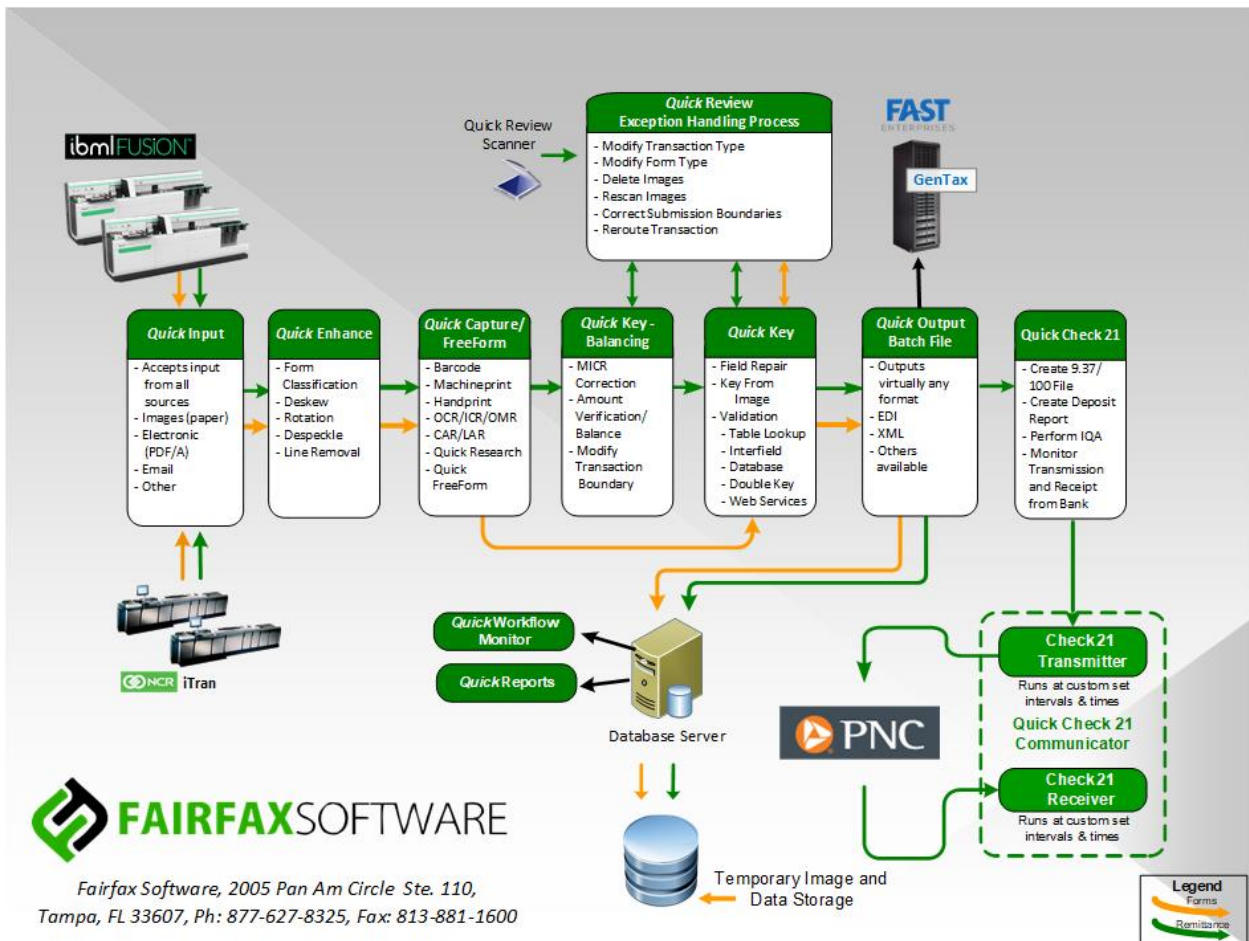


Figure 2 – Quick Modules Workflow Diagram

The modules used within the workflow are shown below:

Specific Area or Requirement	Modules	Process
Workflow	Quick Workflow	Unattended Server Process
Image Identification and Enhancement	Quick Enhance	Unattended Server Process
OCR, ICR, OMR, CAR, LAR, BCR - Structured and Semi-Structured	Quick Capture	Unattended Server Process
Unstructured form Recognition	Quick FreeForm	Unattended Server Process
Item Balancing, Data Correction and Validation	Quick Key with Balance Function	Operator Workstation

Wage Statement Keying	<i>Quick Wage Statements</i>	Operator Workstation
Transaction Integrity Review and Repair	<i>Quick Review</i>	Operator Workstation
Keying Quality Review	<i>Quick Control</i>	Operator Workstation
Remote Keying (optional)	<i>Quick Key Secure</i>	Remote Operator Workstation
MICR Database	<i>Quick Research</i>	Operator Workstation
Check 21 File Generation and Deposit Monitor	<i>Quick Check21</i>	Unattended Server Process for all except Deposit Monitor which is an Operator Workstation
Output of Data Objects	<i>Quick Output</i>	Unattended Server Process

Table 1 – Workflow Modules

In addition to the above in-workflow “real-time” modules, we also propose the following out-of- workflow tools or modules that will help the DOR reap the benefits of the system. Each of these modules is used as needed in the operation, monitoring, or support of the *Quick* Modules system.

Specific Area or Requirement	Modules	Process
Scanning	<i>Quick Scan</i>	Scan Documents
Image Retrieval	<i>Quick Web</i>	Document Management System
Dashboard all system activities	<i>Quick Workflow Monitor</i>	System User Tool
Dashboard monitoring of scanning	Workflow Monitor	System User Tool
Management Reporting	<i>Quick Reports</i>	System User Tool
System configuration and setup	<i>Quick Modules Studio (QMS)</i>	System User Tool
Development, Test/QA systems	<i>Quick Modules Test Suite</i>	System User Tool

Table 2 – Out of Workflow Modules

Quick Workflow can prioritize, schedule, and route work between the various system modules in the *Quick Modules* system and thus customize the workflow to the specific needs of the DOR. This feature helps make our solution superior because it will allow the DOR to prioritize work based on such important criteria as work type or dollar value to customize the workflow of the system to the

DOR's need. Our *Quick* Workflow based solution delivers the following distinguishing features and characteristics:

- **Push and Pull Technology:** Our system central workflow works in dual push/pull mode. It will bring to each queue the next available work item (push), displays them on the screen along with their respective priority levels, and lets the queue operator choose the work unit (pull).
- **High Performance:** The DOR can schedule, prioritize, route, and dispatch Work Objects between processes and people as needed to become more efficient.
- **High Scalability:** As the needs of the DOR grow, so does the need to add more horsepower by injecting additional modules into the workflow. For instance, the DOR may need to add a new data capture queue. *Quick* Workflow allows Fairfax Software or DOR technical staff, to add queues to the system.
- **Robustness:** The tight integration of workflow technology into our imaging product speaks to the power of the solution that we provide.
- **Flexibility:** In a real-world scanning and remittance/forms processing solution, the need will arise where the DOR would require changes in the priorities to accommodate changing business needs. *Quick* Workflow allows the user to make the change easily; and hence, all the new business rules will apply automatically to the remittance/forms processing solution.
- **Image annotation:** Any module can annotate a particular image within the batch. This note will remain with the image, and when the batch is routed to any other queue, the operator will be able to view the note as well as the image.
- **Elegance:** From a system design standpoint, *Quick* Workflow allows the connecting of the various modules together with a few mouse clicks. From the user standpoint, the DOR will be able to dynamically change its priorities, routes, and schedules also with a few mouse clicks. There is no need to redesign the system for every change in the business process. You can create efficient work teams who can handle specific batch or transaction types easily and rapidly.
- **Redundancy:** *Quick* Workflow makes use of the Microsoft clustering technology to provide total redundancy and fault-tolerance. It automatically routes work to a different queue, when a queue is busy or unavailable, provided that the servers running the services have been clustered.

Quick Input

Quick Input is our input image and data acceptor designed to operate with the various scanners manufactured in the market. It runs on the server as an unattended service and as such does not require any operator interaction. *Quick* Input receives image files and data for input from the Scanners and ingests them into the *Quick* Modules workflow. It constitutes an entry point into the *Quick* Modules workflow for the following data types:

- Scanned or imaged documents
- Electronically filed documents
- Bulk submitted documents
- Images of any standard format
- Electronically transferred images (FTP) and data from 3rd party systems.

By design, *Quick* Input supports both centralized and decentralized scanning activities since files can be scanned virtually at any location. For centralized scanning, *Quick* Input is certified to operate with

many scanners and will interface to each in order to import work into the *Quick* Modules system allowing *Quick* Modules to take full advantage of the scanner's advanced functionality. During the *Quick* Input process, the image quality assurance test is performed to quality check each image.

Quick Enhance

Quick Enhance identifies scanned or received documents and performs several enhancement algorithms on the image to improve its readability. This module runs in an unattended mode on the server without the need for operator interaction. *Quick Enhance* provides the following:

- **Image Improvement**

The image improvement stage can automatically correct skewed images; correct miss-oriented images, perform horizontal and vertical registration; remove random noise, dot-shaded regions, and unwanted lines; and correct inverse text, as well as ensure compliance with banking image quality standards for image exchange.

- **Document Form Classification**

Quick Enhance performs the identification process in one of three ways using the following hierarchical method.

1. The best form identification method is the barcode recognition method. Barcodes can be read with the highest level of accuracy. *Quick Enhance* utilizes its barcode recognition technology to automatically identify the image. *Quick Enhance* supports most major barcode formats such as 2 of 5, 3 of 9, high density, 2-dimensional, or postal barcode.
2. If the form does not have an identifying barcode, or if the barcode recognition failed for any reason (torn or stained barcode, etc.), *Quick Enhance* will locate any set of distinguishing characters on the image and recognize those using OCR/ICR technology. These characters may be any readable information or logo, etc. that clearly distinguishes the form from its peers.

Any image that fails automatic image quality checking can be identified for rescan/rejection and sent to *Quick Review*. Once the forms are classified and depending upon the DOR's specific business rules the system can perform electronic virtual batching to group like documents together. In doing so, the system can provide efficiencies in performing the subsequent steps in the workflow, namely the recognition process and operator balancing and validation steps. This provides a common form type to the operator in order to assist them in the most efficient manner for correcting data and performing validation routines. This process is configurable within the system and operates within the workflow server process of the system.

Quick Capture

Quick Capture, our data capture engine, processes structured, as well as semi-structured forms. For semi-structured forms processing the system automatically searches for key elements of the form where the data may reside in order to perform recognition. Once identified, the system classifies the document type and performs the appropriate recognition steps.

The automatic data capture stage (*Quick Capture*) accepts images, from the previous stage (*Quick Enhance*), and outputs the best available ASCII result data for the characters within the images

furnished to it. This module runs in an unattended mode on the server and as such doesn't require any operator interaction in order for it to perform its specific functions.

Quick Capture processes data fields containing constrained hand-print numeric, alpha, and alphanumeric fields, and machine-print text on form items as well as courtesy amounts and legal amounts on payment items such as checks. *Quick Capture* uses some of the world's most powerful Optical Character Recognition (OCR), Intelligent Character Recognition (ICR), and Optical Mark Recognition (OMR) engines.

By combining the advanced form identification features of *Quick Enhance* and *Quick Capture* to recognize form id, 1D, or 2D barcodes or form layout the system can identify records within a transaction without the use of separator sheets. Identifying different formats of the same form within the transaction is then accomplished.

Quick Capture uses multiple recognition classifiers fused together for OCR, ICR, OMR, and barcode recognition (BCR); Courtesy Amount Recognition (CAR) and Legal Amount Recognition (LAR). This multiple engine technology allows *Quick Capture* to be a versatile recognition system processing all field types across all form types, including forms and checks. The CAR and LAR can be applied to the remittance stub/return or check. *Quick Capture* fuses the combined power of the engines to produce the best recognition in the industry.

The *Quick Capture* module is capable of reading the following formats:

- Handprint Numeric
- Handprint Uppercase Alpha
- Handprint Upper/Lower Case Alpha
- Handprint Alpha/Numeric
- Machine print multi-font
- Machine print OCR A & B
- Machine print E13B
- Machine print MICR
- Machine print E7B
- Most commercially available barcodes, including but not limited to 2of5, 3of9, Postal, and Two- Dimensional High-Density formats
- Courtesy amounts on checks
- Legal amounts on checks
- Amounts of money orders
- Bar codes (1D, 2D, QR codes, Post net)
- Optical mark recognition (OMR)
- MICR capture: For checks (business and personal), *Quick Capture* uses *both* optical *and* magnetic recognition to capture the MICR information. *Quick Capture* recognizes MICR fonts with a high degree of accuracy by segmenting each character, including ABA and CPA symbols, and reading each character both magnetically and optically, and then fusing the two reads into one common high-fidelity result.

Quick FreeForm

Quick FreeForm employs advanced form data capture technologies ensuring accurate results while minimizing configuration effort and not sacrificing performance. This approach combines robustness

with maximum flexibility, and uniquely addresses the needs posed by the DOR forms processing challenge.

An effective state tax and revenue data capture process must be able to capture data not only from official/master forms but also from substitute forms (aka vendor forms). While substitute forms have the same data as a master form, the location of the data is not the same due to a variety of reasons. In the traditional form processing context, each substitute form requires the existence of its own template to support accurate data capture, meaning that the total number of templates is directly proportional to the number of vendors.

In the DOR reality, vendor forms may vary due to two main reasons:

- 1) the data fields in them change from time to time (we'll call that a "form variant"). This is an artifact that is resolved in our *Quick Modules Studio Module (QMS)* (as defined below). QMS can quickly create a new template from an existing one when there are small changes like a new field is added or an existing field is removed;

and/or

- 2) the location of the data is different across what we call "form variations". This is an artifact that is best handled by our *Quick FreeForm* module, and may arise due to inconsistent form reproduction, different sources of forms, etc.

Nevertheless, in the traditional forms processing context, each such form variant and/or variation (together instances) requires the existence of its own template to support processing batches of forms containing multiple instances. Ultimately, the work involved in maintaining large libraries of templates in that context is extensive, and the associated cost is high.

Regardless of the artifact in question, the *Quick Modules* solution uniquely addresses this forms processing challenge by providing unstructured and enhanced structured processing capabilities through *Quick FreeForm* or within *Quick Modules Studio*, depending on the artifact.

At system configuration time, *Quick FreeForm* is configured to create and maintain a configuration file to capture data in an unstructured manner. This file contains a set of search rules guiding *Quick FreeForm* to locate fields. In this case, only a single configuration per master form is required to process all different substitute forms associated with that master form. This results in considerable labor savings, notwithstanding storage and maintenance complexity down the line.

In the event that configuring *Quick Freeform* in unstructured manner is not practical, *Quick FreeForm* can be configured to capture data using structured templates. None-the-less, the number of required templates is still reduced by creating *only* templates for the most "representative" substitute forms. All substitute forms are fed through a special algorithm that breaks them into groups based on their similarity. Forms belonging to the same group are considered to be similar. For each group, the algorithm also recommends a master form for which a template needs to be created and tuned. This process reduces the number of templates needed and at the same time provides the same level of performance and accuracy as the traditional structured template approach where the ratio between the number of templates and substitute forms is one-to-one.

If DOR has established guidelines, follows through with the vendors on them respecting these

guidelines, and as such the vendors generally adhere to these guidelines, the number of templates can be reduced by 50%-70%.

Similarly, from year to year with legislative changes occurring, our solution allows for the re-use of the work from a previous year to create definitions for the new year.

Virtual Batching

Quick Modules performs intelligent form classification on each and every image received. Virtual batching of the individual transactions is electronically performed by *Quick Modules*, where like forms are grouped together for application of appropriate business rules and workflow assigned to those types of forms.

Quick Modules' strong and highly accurate classification capability allows intermixed forms to be identified and electronically grouped into similar batches. As a database centric product, *Quick Modules* allows clients to process transaction and/or batch mode to best suit the business process. **Unlike file-based systems which can only perform batch processing, *Quick Modules* provides DOR the ability to process all batches scanned as individual transactions.** That way, one exception transaction does not hold up the entire batch. In addition, virtual batching diminished considerably the number of sorts required.

Automatic Balancing

Check balancing is performed against all check (money) items in accordance with banking standards. Courtesy Amount Recognition and Legal Amount Recognition (CAR/LAR) is performed prior to balancing and the amount captured from each check is positively matched (balanced) against the amount(s) in the scan line or amount due field on any form.

Working in transaction mode during balancing and validation stages in the workflow allows the DOR to speed their operation. Unlike other systems where a batch is held for deposit while one item is resolved, the *Quick Modules* system allows each transaction to be worked regardless of the disposition of other items which may have been in that batch at scan time.

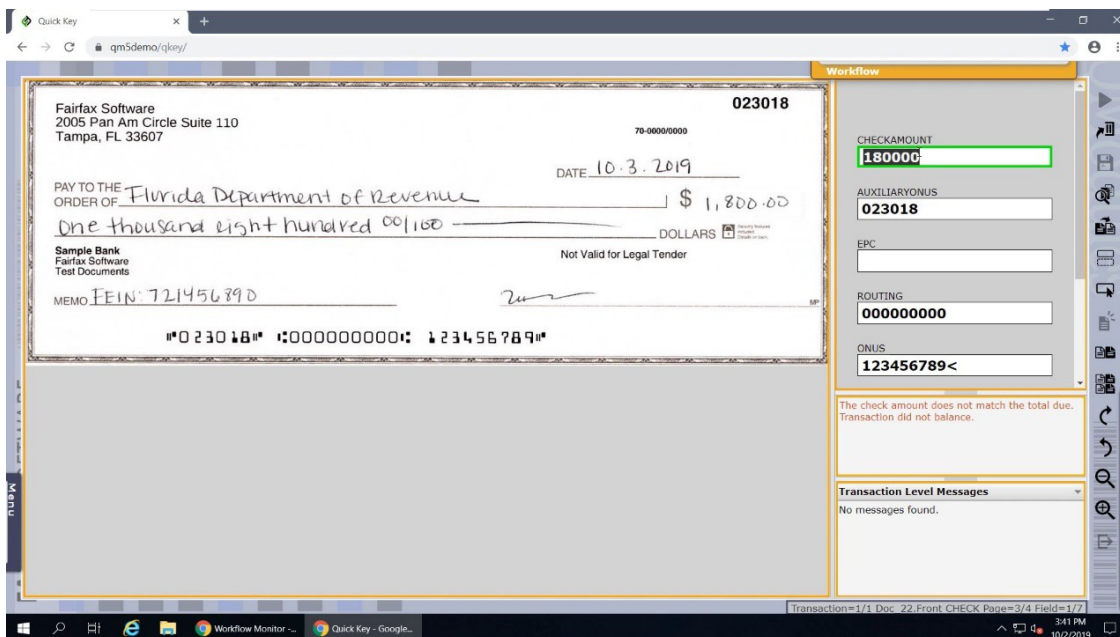
All batch information is maintained within the systems database. Depending upon the DOR's downstream system(s) data file output can be either transaction based or batch.

Throughout the process, the system provides complete audit trail of each transaction of who touched which items, the modifications made (system as well as operator) and the data. Within the *Quick Workflow Monitor*, DOR staff can visually monitor, search, and retrieve individual items throughout the workflow.

Quick Key – Balancing Function

Within the *Quick Key* module, the operator will perform the Balance function for all remittance items. Performing balancing is an operator attended task in the workflow that performs transaction balancing, ensuring the sum total of all payment items in a transaction (amount paid) equals the sum total of all source document amounts in the same transaction (amount due). This verification is performed to ensure that all check amounts are accurate prior to deposit. This process includes comparing all amounts read by CAR (or CAR/LAR), or keyed (if rejected at CAR) on each check against the amount due field read on the document. The balancing process begins as soon as all the amounts in each transaction are recognized. The first step is to key correct any MICR recognition errors. If no MICR line corrections are necessary, the system automatically prompts the user to begin balancing the transaction.

If any transaction within the submission does not balance, the system highlights the Amount Paid on each payment instrument within that transaction (checks, money orders, etc.) and prompts the user to correct the captured amount. The system also highlights the Amount Due on each form within that transaction and prompts the user to correct the captured amount. After any amount correction, the system automatically attempts to rebalance the transaction.



The screenshot displays the Quick Key software interface. The main area shows a check image with the following details:

- From:** Fairfax Software, 2005 Pan Am Circle Suite 110, Tampa, FL 33607
- Check Number:** 023018
- DATE:** 10.3.2019
- PAY TO THE ORDER OF:** Florida Department of Revenue
- Amount:** \$ 1,800.00
- Text:** One thousand eight hundred 00/100 DOLLARS
- MEMO:** FEIN: 721456890
- Bank:** Sample Bank, Fairfax Software, Test Documents
- Barcode:** ⑈0230⑈ ⑈000000000⑈ ⑈23456789⑈

The right-hand panel, titled "Workflow", contains the following fields:

- CHECKAMOUNT:** 180000 (highlighted in green)
- AUXILIARYONUS:** 023018
- EPC:** (empty)
- ROUTING:** 000000000
- ONUS:** 123456789<

Below the workflow fields, a message states: "The check amount does not match the total due. Transaction did not balance." At the bottom, a section titled "Transaction Level Messages" shows "No messages found."

Figure 3 – Quick Key with Balance Function Screen (Single Item Display)

Within *Quick Key* the operator can enable a split screen view mode for remittance processing. This allows the operator to view both, check and voucher on the same screen. The active document is always displayed on the top with all related fields on the right. When the operator moves to the next document within the same transaction *Quick Key* automatically moves the next image to the top.

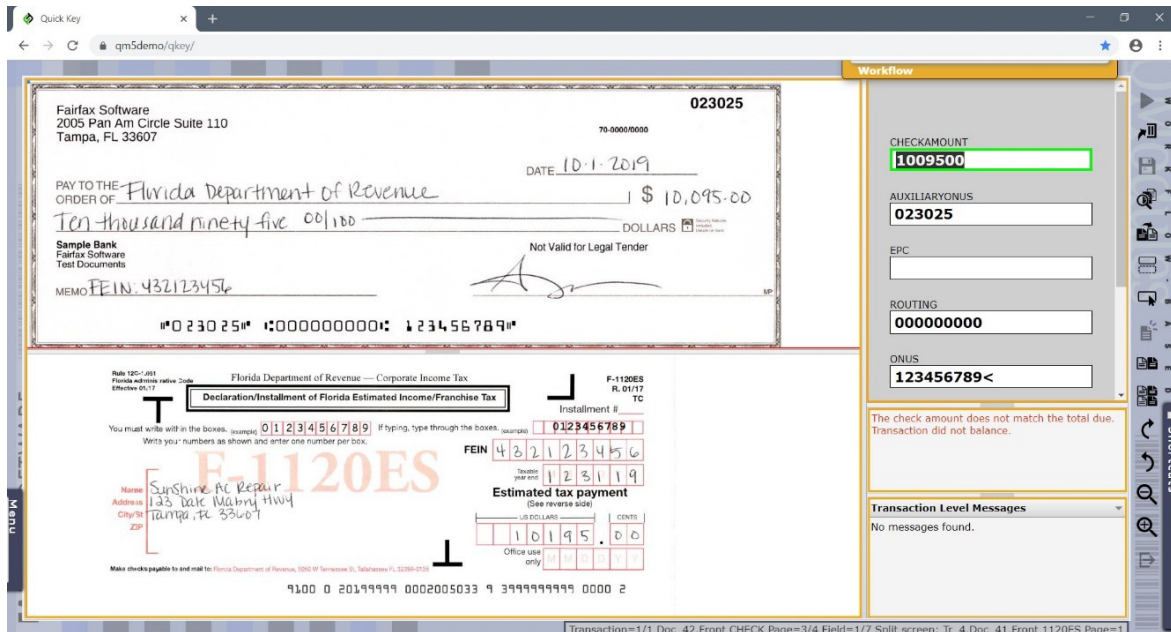


Figure 4 - Quick Balance in split screen Mode

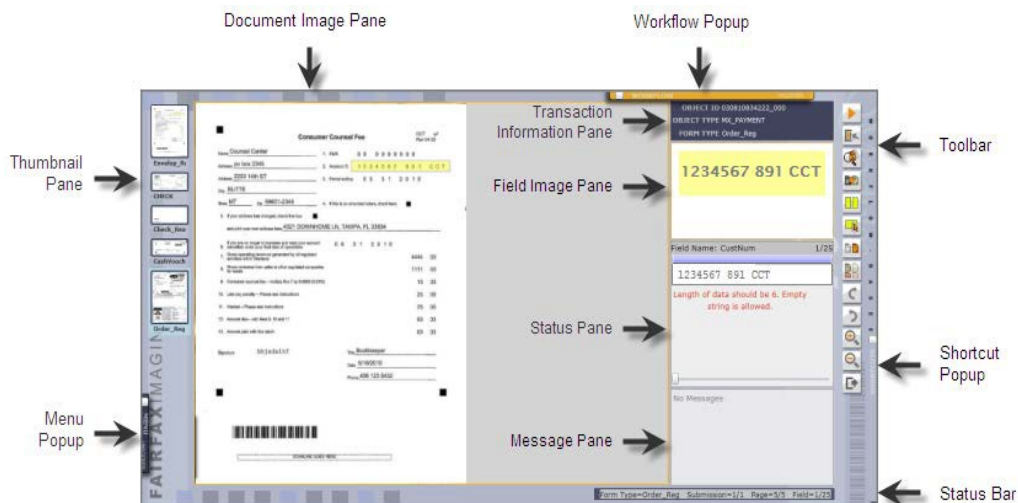


Figure 5 – Quick Key Data Validation Screen

Quick Key – “Rubber Band” Function

Anytime within *Quick Key* that a field needs to be keyed, the operator has the option to use the mouse to draw a box around the field image to instantaneously perform OCR of the data and populate the results into the corresponding entry field. This ad-hoc recognition is especially useful when a long field such as a scanline must be entered. All business rules associated with recognition of the field automatically apply.

Quick Key Secure (option)

Quick Key Secure provides secure remote keying of data fields by work-at-home DOR employees or third-party keying services. For data security and to prevent the remote keyer from viewing sensitive or Personally Identifiable Information (PII), all data presented to the keyer is randomized and restricted to snippets from the original image that shows data to be keyed. The keyer sees a ribbon of random snippets from multiple documents and has no ability to view the entire image of the document or know what document they are keying. Fields can be subdivided and presented to different keyers to prevent the keyer from knowing context of the data. *Quick Key Secure* automatically creates the snippets and then populates the data into the proper database record after keying is complete and the data is securely received back to the DOR *Quick Modules* system.

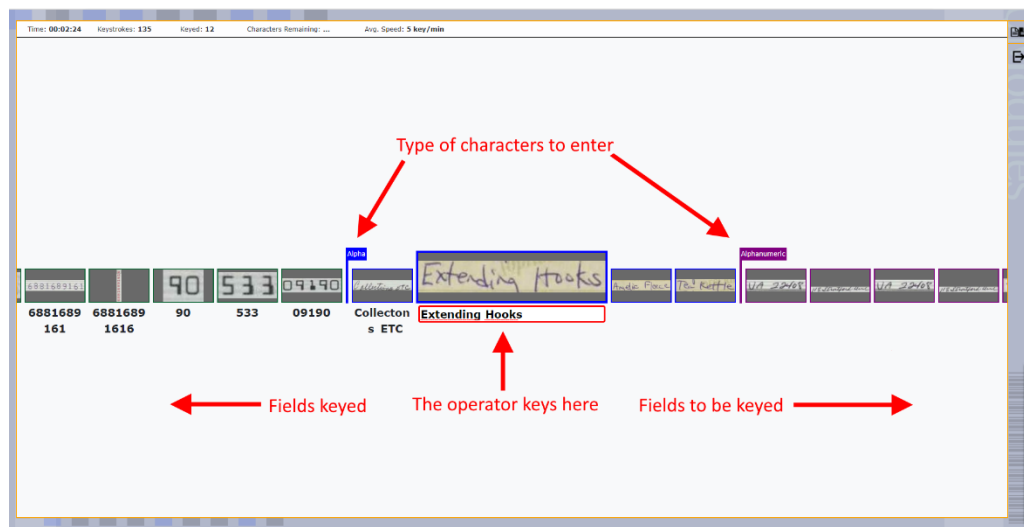


Figure 6 – Quick Key Secure Entry Screen

Quick Research

Included in the design for *Quick Modules* is our *Quick Research* module. *Quick Research* is designed to improve the check only process where no form accompanies the payment instrument. *Quick Research* utilizes a database table within the systems SQL database. This MICR line database associates MICR line data with an account number by accumulating data within the database built over time. It attempts to post the check only to the account automatically or provide the operator with the research capability, in case either, there is no match, or multiple records exist. If it finds a match in the database, it can either, present the results to the operator, or automatically select the form type and associated payment elements.

Once identified, the system will generate a “virtual” voucher that depicts the accounting information and store that voucher image along with the check only item into the systems long term storage for retrieval/access.

Quick Key - Quick Wage Statements (QWS) functions

QWS performs instantaneous optical character recognition within the *Quick Key* module, allowing you to capture data from forms that cannot be effectively processed using templates. For example, forms

that contain long columns of data that would require hundreds of different fields on the templates, and if the form was off by even a small amount, dozens of fields might be captured incorrectly, requiring a significant amount of data correction.

With QWS, you can use your mouse to draw a box around individual columns of data, capturing and parsing that data into a temporary storage table all at once.

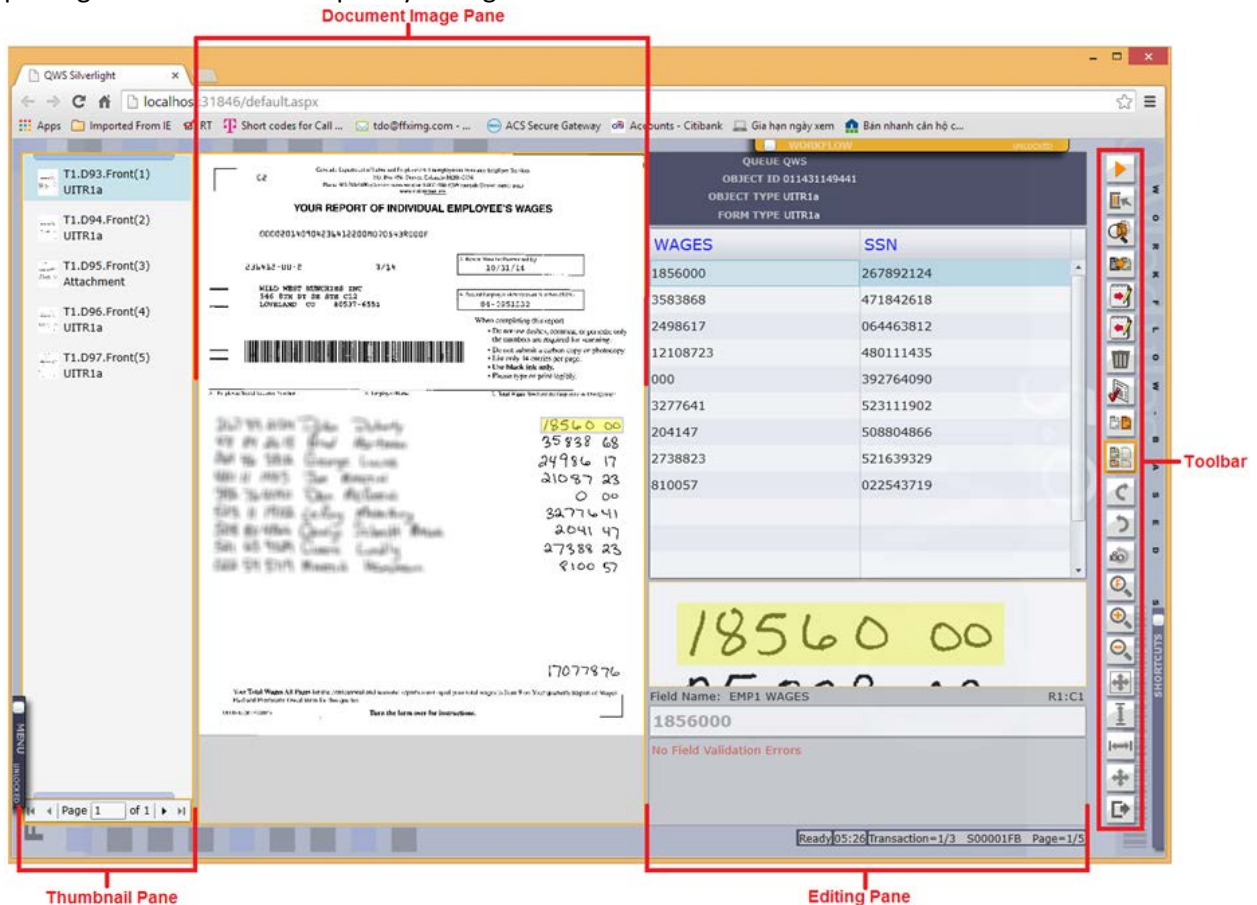


Figure 7 – QWS Screen Layout

The features of QWS include:

- Fully automated data validation
- Review and correction of low confidence data
- The ability to key table data into the system in grid format
- The ability to perform instantaneous grouping of data for OCR/ICR for machine print and handprint column data
- The ability to balance the sum of column data to a column total to ensure data accuracy
- Complete set of data validation rules standard to key correction
- Preset confidence values and user adjustable thresholds
- The ability to rotate images, zoom in and out, and toggle between color and black/white versions of images
- The ability to change the form type for each form in a transaction
- The ability to select from multiple queues in which to work

- One click ability to return transactions to the queue, or send the transaction to a supervisor for review

Quick Key – Data Validation

Throughout the *Quick* Modules solution, specific business rules can be invoked to ensure accurate capture of the information prior to posting and deposit. These business rules can vary from simple validation rules like range and date checks to complex business rules involving table lookups and executing algorithms using information from several data items on multiple forms. *Quick* Modules user exits are capable of handling virtually any business rule that can be clearly defined and for which the required data can be made available for retrieval from a table, database, or other electronic source.

Quick Key offers four sets of field validation rules.

1. **Standard Generic Rules** -These are the simple rules that apply to every field and describe summarily the nature of the field. The different types currently supported are:
 - **Generic Data Types** - Fields can be specified as being one of several different data types and are validated as such. Some of the more commonly used field validation types are phone number, zip code, date, amount, and social security number.
 - **Specific Data Types** – Fields can be pre-configured to only allow certain characters to be a part of the data entered. For example, if a field can contain any numeric character and the letter ‘M’, this validation rule will ensure only those characters are entered as a part of this field.
 - **Range** – Numeric, date, and amount fields can have a range value applied to them. This will ensure the information in this field falls between the values allowed for the range check.
 - **Field Data Length** – The minimum and maximum number of characters allowed in a field can be set.
2. **Table Lookup Rules** – Any field can be validated through a file lookup. File lookups support any format containing single- or multi-fielded, character delimited data. Files can contain extraneous data and do not have to be formatted specifically for use by File Validation. Rather, any common column within the file can be used for performing field validation. Moreover, *Quick Key* offers a convenient way to enrich the tables. For instance, as new data are discovered that were not part of the table, they are added automatically to the table to be accessed in future attempts.
3. **Database Lookup Rules** – Any ODBC compliant database can be used to validate field information. Through the use of a SQL like statement, it is possible to specify a table and column within the database that will be used to ensure the field information is contained within the database.
4. **Programmed Rules** - These are the more sophisticated rules, and they will be programmed for each field in the appropriate user exit supplied. Such programming is simple and either technical team may perform it.

In addition to single field validation rules, *Quick Key* offers inter-field validation rules. This is accomplished by programmatically applying pre-established rules between the fields in the form.

Although many standard editing features are built within the system, on occasion user exits are required. The preferred programming language for all user exit rules is Microsoft .Net. The choice of Microsoft .Net as a programming language for the user exit rules (as opposed to some proprietary programming language) was done judiciously in order to adhere to open systems and industry-standard principles.

Quick Key also allows the user to attach a note to any specific image within the submission. This note will remain with the image, and when the submission is routed to any other queue, including review and repair, they will be able to view the note as well as the image.

In the *Quick Modules* system, all images of one document are always linked together by the data structures. Thus, *Quick Key* will always allow the operator to “connect,” “view,” and “analyze” two (2) or more images to form one document. All of the visual (client modules destined to be used by an operator) and graphical modules within the *Quick Modules* system provide the ability to zoom easily and readily with one mouse click. We designed these zoom features to provide ease in the data entry, image viewing, and overall ergonomics of the product suite.

This is the most common screen used in conjunction with recognition data entry mode and is most useful for image-based whole field correction and validation of the information captured using recognition techniques. The field in question is highlighted due to low confidence from the recognition engine. The image is shown in full context, and the field is to be re-entered in its entirety. Transaction information is shown, along with error message(s) to guide the operator. The error messages are tailored to specific DOR requirements in order to guide the operator to complete the process. All of the information is validated for accuracy using specific business rules.

In Key from Image (KFI) mode, *Quick Key* displays individual pages of a transaction and highlights each field required for entry. This mode also allows full keying from the image without the need of performing recognition. There are two visual displays selections available by the operator. Portrait mode or landscape modes can be selected based upon operator preference. Within the window pane of *Quick Key*, the operator at any time can easily select a specific image to view within the transaction by selecting the image within the Thumbnail view shown on the screen.

Quick Key can handle a number of common anomalies right there and then, at the transaction level, without holding up the whole batch. This is a great improvement in performance and efficiency and has great positive repercussions system-wide. The following exception conditions can all be handled on the spot in *Quick Key*, without having to resort to sending the entire batch (or even the transaction) to *Quick Review*:

- Form type changes
- Image rotation
- Image manipulation
- Page deletion
- Order swapping within transaction
- Annotation

As with all other modules, all of these actions are noted in the system database and can be reported upon on an as needed basis.

Quick Control

The *Quick Control* module is a statistical sampling tool that allows an administrator to select a percentage of work that a keyer has processed in a selected queue for quality review. *Quick Control* allows DOR to measure the accuracy of *Quick Key* operators and the recognition process within *Quick Modules*. Once initial keying is complete, a randomly selected statistical sample of the data is sent to a queue to be re-keyed by a quality assurance staff member. The information is then compared using measurable metrics to determine overall operator and/or system performance. A DOR administrator will configure *Quick Control* including the desired percentage of work to be reviewed using a graphical user interface (GUI) that is simple and easy to use.

Quick Control can be set to trigger intermittently throughout processing or on a schedule, such as a specific time of day, or on a certain day of the month. Reports are generated to compare metrics on the accuracy of the individual keyer, the time required for a particular keyer to enter a specified batch, the integrity of an individual batch, and recognition on accuracy. Reports are generated by batch, by submission, by page, and by field, giving DOR a wide variety of options on which to collect performance and integrity information.

Quick Review

The *Quick Review* module provides multiple functions within the *Quick Modules Workflow*.

1. **Transaction Review Prior to Virtual Batching** - Should the *Quick Modules Workflow* determine that a transaction cannot be identified, is incomplete, or has failed a business rule, it will automatically be routed to a *Quick Review* queue for review by an operator. The *Quick Review* operator will review the transaction and resolve any issues and return the transaction to the workflow. The workflow will then assign the transaction to a virtual batch. Within *Quick Review*, the document type can be changed, transactions can be re-ordered, and images can be rescanned using a desktop scanner and replaced in the database.

Transactions can be marked for further review, returned to the workflow, or be removed from the system. All *Quick Review* operations are recorded in the audit database. The operator is required to enter comments for each transaction that is recorded in the system audit.

2. **Transaction Review after Virtual Batching** - The *Quick Review* module allows a more senior operator or supervisor to research a transaction and resolve exceptions. The operator will be able to examine the before and after state of all the data fields as the transaction has moved through the system. If the *Quick Review* operator can resolve the issue, the transaction is returned to the workflow for further processing. Processing options include changing the document type, re-routing the transaction, or rejecting the transaction from the system.

Within the *Quick Modules* system, exception items can be flagged by an operator or by a system process that fails a particular business rule and these items will be routed to *Quick Review*. At *Quick Review* these items can then be reviewed by a knowledgeable worker to ensure accuracy of the information being flagged and confirm the operation. Only a small percentage of work ever is routed to *Quick Review*. Any item noted by an operator for deletion is routed to *Quick Review*. This provides a method of audit trail to those items deleted as well as ensures proper integrity to the operation.

Transactional errors are corrected in *Quick Review* which has the capability to move, delete, or insert images, correct form identification, and to redefine transactional boundaries.

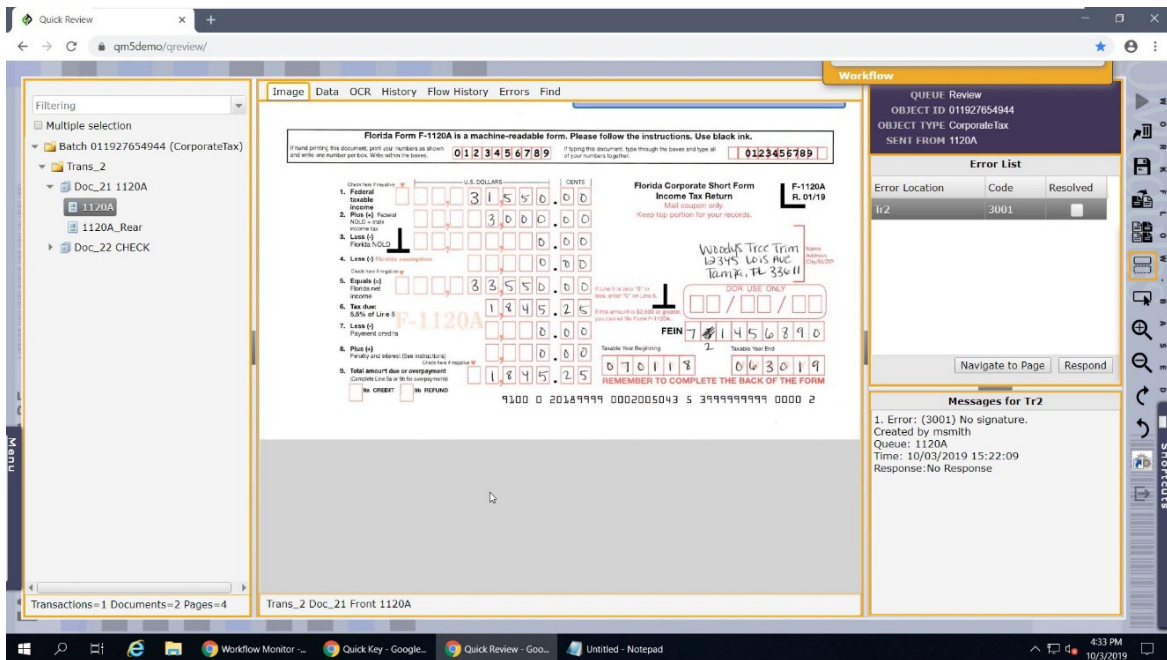


Figure 8 – Quick Review Screen Example

The *Quick Review* operator can electronically select those items to be removed from processing. The *Quick Review* operator may also perform a number of other operations pertaining to transaction integrity review and repair. The *Quick Review* process is responsible for ensuring that any anomaly that may have occurred at any point in the workflow can be fixed both graphically and easily. This is perhaps one of the most attractive features of our solution, as compared to other “Trash-and-Rescan” approaches to solving transaction integrity problems featured by some competitors.

With the features of *Quick Review*, the operator can utilize an attached scanner to remedy the following exception conditions:

- Insert a whole new transaction, a form, or a payment item that was not scanned at all in --the first scanning pass on the transports;
- Delete and re-insert a transaction, a form, or a payment item that was not scanned properly in the first scanning pass on the transports;
- Delete and re-insert a transaction, a form, or a payment item that would not scan at all due to the nature of the paper (paper would not feed through the feeder);
- Insert a whole new transaction, a form, or a payment item that was torn or damaged during regular scanning;
- In batch mode processing, split and re-insert an existing transaction, a form, or a payment item that was double fed during regular scanning.

Quick Check 21

The solution proposed to DOR incorporates electronic presentment of the payment items for deposit electronically without the need to manual encode and deposit U.S. based check items. Within the Fairfax Software solution, the *Quick Check 21* flow consists of three different modules. The first module controls which information is gathered from the database and generates the Check21 file, also known as an “X9.37” or “937” file. The second module transmits the Check21 files to PNC Bank, listens for acknowledgements from the bank, and updates the status of transmitted items. The third module provides Check21 reporting, the ability to fix rejected items and deal with any issues that may arise in the process.

The Check 21 process provides electronic deposit to as many deposit banks as is necessary to fulfill the DOR’s needs. Image Quality Assurance (IQA) is performed for each set of image (937) records to ensure compliance to Federal Reserve standards for electronic deposits. This includes:

- An individual item must have corresponding front and back image segments.
- Each image segment must have a minimum resolution of 200 dpi.
- Each segment must be black and white and in the TIFF 6.0 CCITT Group 4 compression format.
- Missing/torn corners analysis is performed to determine if any of the document’s four corners are either folded or missing.
- The document length is calculated by dividing the horizontal pixel count by the pixel density (dots per inch) to ensure it is within standard check length specifications.
- The document height is calculated by dividing the vertical pixel count by the pixel density (dots per inch) to ensure it is within standard check height specifications.
- Document skew is measured to determine that the image is of sufficient orientation and presentment.
- Pixel count is performed to ensure acceptable document image quality and noise ratios are achieved and that an image is not too dark for presentment.

Quick Check 21 File Generator

The Check21 File Generation module runs as a service without any user intervention and is controlled by an XML configuration file. This configuration file can be edited to change the behavior of the service. The module can be set to query the *Quick Modules Check 21* database at whatever time and frequency required. By default, all checks that are currently ready to be processed are put into the Check21 937 file. If business rules require checks to be held for a specified reason, the module can accommodate those needs.

Once the range of data has been specified, all of the necessary information is pulled from the Check 21 database and a Check21 937 ICL (Image Cash Letter) file is created. All of the data that has been pulled within the database is marked as “Processed” to ensure that it does not get sent twice. The *Quick Modules Check 21* process also compares transactions against the database to ensure no duplicate items exist and perform other validations of the transactions (example no check can be for zero amount). Prior to transmission, any required inclusion of data such as check amount or endorsement can be annotated into the check image by the *Quick Modules* system. The completed Check21 ICL file is then placed in a specific folder (DOR specified) to await transmission.

Quick Check 21 Communicator

The communication portion of the Check 21 flow consists of two processes:

- **Transmitter**

The Check 21 transmitter will automatically send any ICL files that have been processed during the day according to the configured schedule. Files can be collected and sent to the bank all at once, or can be sent as multiple files throughout the day. The transmitter supports FTP w/ PGP encryption, SFTP, FTPS, and HTTPS transmission methods to ensure secure transmission of the data.

- **Receiver**

The Check 21 Receiver listens for acknowledgements from the bank to determine whether or not the file was accepted or rejected. The actual type of acknowledgement is defined by the bank and is usually either an email or a file that is captured by the Check 21 receiver and interpreted. If a file is accepted with no errors, then all of the checks that were contained within the accepted file are flagged as "Accepted" and are reported as such by the bank. Upon receiving notice through the acknowledgement process that any item was rejected by the bank, the Check 21 system will mark the rejected item(s) as such and adjust totals as necessary to match the bank's records. These rejected items are then resolved using the systems Deposit Monitor process.

Quick Check 21 Deposit Monitor

Deposit Monitor is an operator task item for the Check 21 process which provides reports on check aging (if checks are not immediately deposited), invalid checks, and the deposits sent through Check21. It also provides functionality to fix rejected items and to mark them for redeposit. Deposit Monitor tracks the deposits after they have been created. Any of the data tables shown in Deposit Monitor can be exported to a Comma Separated Value (CSV) file.

The operator is capable of viewing the following types of reporting/status:

- **Daily and Weekly Summaries**
 - Daily Summaries show all Deposits that were Transmitted, Accepted, Rejected, or Deposited Manually.
 - Weekly Summaries is similar to the Daily Summary except that it shows all Deposits Transmitted, Accepted, Rejected, or Deposit Manually for that week.
- **Pending Deposits, Deposits by Date, Deposits by Account**
 - Pending Deposits are defined as Deposits with status indicating Ready for Processing, In Processing, Held, Awaiting Transmission, and Transmitting. Searches for all Pending Deposits may be limited by a single date or date range.
 - Deposits by Date allow searches for all Deposits that have been Transmitted, Accepted, Rejected, or Deposited Manually on the selected date or date range.
 - Deposits by Account allow searches for Deposits that originated from selected Sites and were targeted at selected deposit accounts.

- Pending Items, Rejected Items, Aging Items, Invalid Items
 - Pending Items are defined as those with statuses that are ready for Processing and Waiting on Backend.
 - Rejected Items are defined as having been rejected due to image quality analysis, MICR, amount, and duplicates.
 - Aging Items are defined as items that have been sitting in the system with a Waiting on Backend or Rejected status for more than one day.
 - Invalid Items are not the same as Rejected Items. These are items that fail due to some internal business rule supplied by DOR. These items never get deposited or processed but are reported upon for tracking and disposition.

There are four different levels of users for Deposit Monitor: Reader, Editor, Supervisor, and Administrator. Readers are allowed to do searching, but when viewing deposits or items they may only add comments. They cannot change any existing information. Editors can do everything that Readers can do, but they can also update deposit statuses from Transmitted to Accepted, Rejected, or Manually Deposited. They can also fix rejected items. Supervisors can do everything that Editors can do, but they can also update items from an Accepted status to a Rejected Status or from Accepted to Deposited Manually. Administrators can do everything.

Quick Output

At this point in the workflow, all the data has been perfected and the images are waiting to be archived in the image repository. *Quick Output* is a general-purpose output stage. It receives the results of the automatic data capture and character correction stages and appends or stores the information in an output data file. After processing has been completed, there are a variety of options available to the DOR for output of the captured information (data and images). File creation and output consisting of various formats will be performed and multiple transmissions can be generated daily to maintain the system output.

Through *Quick Modules' Quick Output* software, data files are created and transmitted to Indiana Tax System (GenTax) or any other designated endpoint(s) that the DOR requires. This can be one or many file-types from standard to highly custom. There is virtually no limit to the number and type of files that can be created as long as the file format can be specified. As long as the file format can be specified, the interface can be developed.

Quick Modules Tools Outside of the Workflow

Quick Reports

Reports are generated using Microsoft SQL Server Reporting Services (SSRS) and displayed on the screen. Reports can be downloaded in a variety of formats including Word, Excel, PowerPoint, PDF, TIFF, MHTML, CSV, XML. Any field defined in the *Quick Modules* SQL Database is available for reporting. Reports can be requested on demand, run automatically (i.e. whenever output is complete) or on a set schedule (i.e. every day at 3pm).

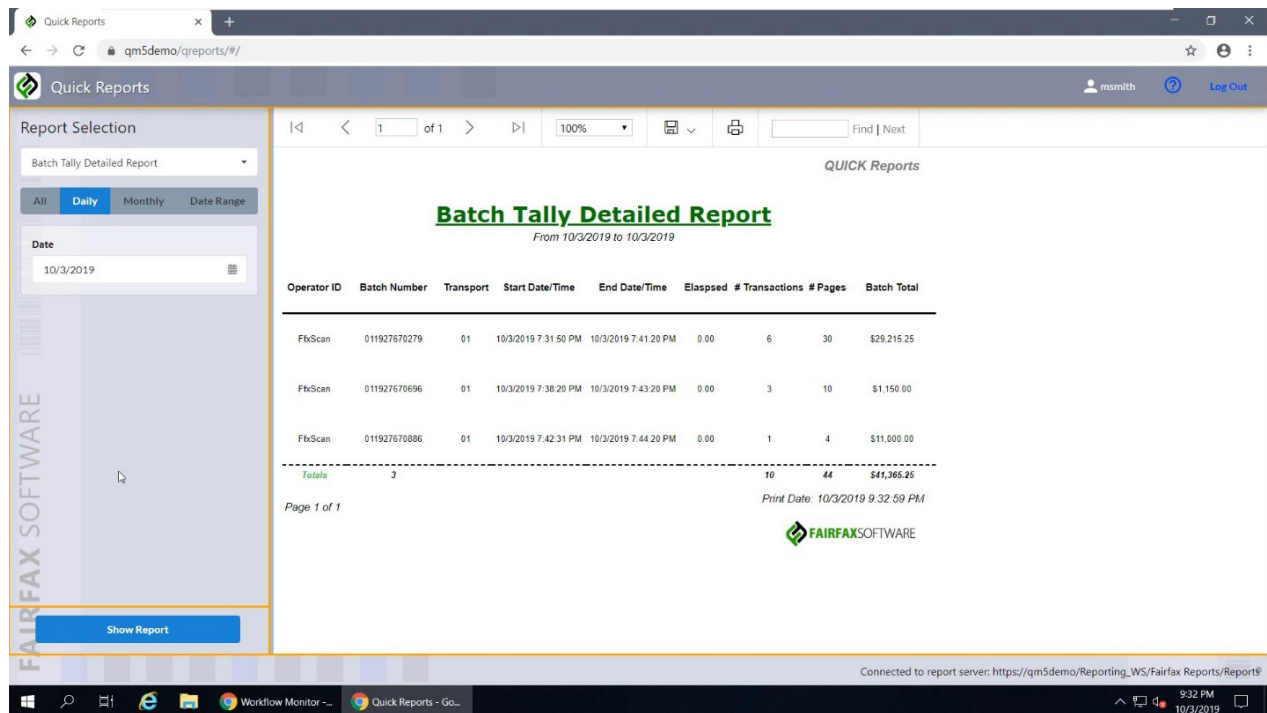


Figure 9 – Quick Reports Screen Example

There are three different type of reports. Batch reports that track the work processed in the system, Audit Reports for Manual Operations, and Audit Reports for Automatic Operations.

Standard reports include:

- Batch Tally Detailed Report
- Batch Tally Summary Report
- Output Report
- Inventory Aging Report by Queue
- Scanning Report
- Transaction Kill Rate Performance Report
- Form Identification Accuracy Summary Report by Batch
- Form Identification Accuracy Summary Report
- Data Change Tracking Report
- Data Entry Operator Performance Report
- Transaction Balancing Operator Performance Report
- CAR-LAR Recognition Performance Report
- Character Recognition Accuracy Summary Report
- MICR Recognition Accuracy Report
- Character Recognition Accuracy Detail Report
- Field Recognition Accuracy Summary Report
- Hand-Print Field Type Recognition Accuracy Report
- Image ID Accuracy Detail Report by Form Type
- Machine-Print Field Type Recognition Accuracy Report

System Monitoring and Reporting

The solution proposed offers a robust set of tools that allow DOR to monitor the daily production and archival databases of the designed solution. Fairfax Software recognizes DOR's desire to monitor the production systems continuously in order to achieve maximum productivity and address any bottlenecks in the workflow.

Quick Workflow Monitor

Quick Workflow Monitor includes additional features that provide supervisors access to detailed information of the current system state, including a display of all objects currently in system and a list of objects within a specific queue. Within the object list display details about each item such as date created, and time arrived to the queue are maintained and tracked. Supervisors can view the images as well within that transaction. While viewing the image, Supervisors are able to view the OCR results, the history of the item as well as any identified errors.

The *Quick Workflow Monitor* module provides real-time administrative and management oversight into the current performance of the system of the *Quick Modules* software. Every process within the proposed system and its associated queue(s) can be monitored. If desired, any transaction within any queue as well as the details associated with the transaction can also be viewed.

The *Quick Workflow Monitor* enables the operation management viewing of the number of transactions in a queue, the status of each transaction and associated documents, the contents of each transaction and any errors that occurred in any transaction. *Quick Modules* logs actions undertaken on all transactions into log files for each module in the system, to include date and time and type of message. This information may be accessed in real-time and may be displayed using *Quick Workflow Monitor*.

Quick Modules relies heavily on log files to inform the system administrator of the progress of the various operations that it performs. Particularly, all error and exception conditions are logged.

Quick Modules keeps a historical database table that contains ALL actions undertaken on the transaction, on a module by module basis, to include the following information:

- Date and time of transaction check in
- Date and time of transaction check out
- Operator ID
- Length of processing

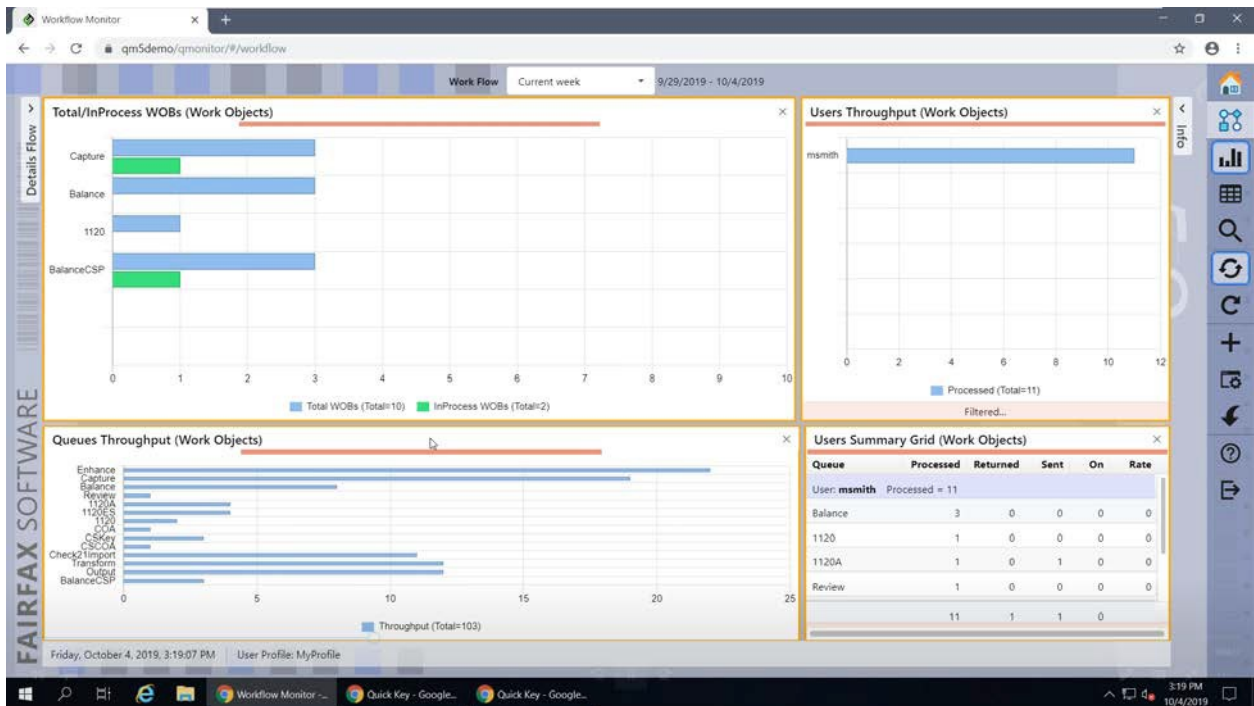


Figure 10 – Quick Workflow Monitor Workflow Page

Quick Purge

All information related to document types, date scanned, etc. is stored in the systems database. *Quick Purge* is used to delete images and/or database information based upon form type, date, and other types of parameters based upon DOR requirements in order to maintain the health of the proposed system. This can be configured as an automated process that occurs periodically (i.e., once a week) or manually when initiated by the operator.

Once the purging process begins, it first determines which images need to be removed from the system. If the images reside in on-line storage it wipes them and frees up this space for use in continued production activities. It then wipes this information from the database. The information can be purged by date range if desired.

Quick Modules Studio (QMS)

This module is responsible for setting and configuring the entire *Quick Modules* system, in a highly intuitive, graphical, and user-manner. *Quick Modules Studio*, referred to as “QMS,” is an administrative tool used to manage and setup the solutions required to properly implement *Quick Modules*. It serves as a centralized development environment that allows the development, testing, and deployment of applications within *Quick Modules*. Several features make QMS unique and tailor made for forms and remittance processing industry.

- The development of applications can occur outside the production environment of *Quick Modules*. This allows developers to maintain the system without the need to interrupt production activities.
- They system allows the user to have multiple “builds” or environments. For example,

oftentimes users require a development, test, and production environment. With QMS, the developer can easily maintain all three environments and at any time roll back to a previous build should the need arise.

- Designed to be intuitive, QMS offers a graphical workflow setup and design.
- Developers can maintain a library of user validations and rules that are common across all forms and/or applications.
- Within QMS, the user is allowed to set up all fields needed for recognition, as well as test the accuracy of the system for feedback and optimization prior to deployment.

QMS is the single location for all job setup - from forms and remittance processing to security for users, test environments to designing workflows. Designed for administrators and non-developers, QMS is a separate program with tools incorporated to save time and provide a technical, safe environment for creating new builds. Each "build," in turn, becomes a *Quick Modules* solution.

QMS allows the system to save more than one build for *Quick Modules*. These builds contain the many rules and criteria needed to run the *Quick Modules* system and are accessed through the Home Page of QMS. Everything from form fields to validation rules, what constitutes a batch to audit reporting, security settings to step-by-step workflow definition. Current builds are in production while previous builds can be saved and accessed later on, if needed. One build could be the test environment; another could be the production environment. It is easy to transition to an older, different build, when necessary.

When a build is selected QMS informs the administrator of the build number loaded and not the current deployed solution. The administrator can examine the previous builds without affecting the deployed solution, in production, test, or development environments. This allows the administrator to freely examine previous forms or rules without deploying the solution. If required, any previous builds can be re-deployed to replace the current deployed solution.

In QMS, administrators have the ability to export and import solutions as well. For example, a previous build from the production's environment can be selected, exported, and then imported into a test environment in order to perform additional testing without affecting the production environment. The export feature in QMS combines all necessary files, including forms, rules, workflow, and creates a single file that can be imported into another *Quick Modules* environment. The exported file can also be sent to Fairfax Software for troubleshooting purposes.

As you work on solutions (editing validation rules, adding forms, adjusting queues, etc.), the system is not affected until you deploy the newly configured solution. In this way, any changes made are not in effect until the System Administrator decides that all is well and the changes can be implemented, after testing, etc. Further caution is encouraged by having a save and restore feature for deployment. The system can be saved and restored later on if the new configuration needs to be discarded.

Validation Rules

Validation rules are easily setup, many without the need of programming and become libraries to the application(s) that can be selected and maintained within the system. For each form and field within the form, the user is able to set the specific business rules associated with that dataset. Should a customized rule be required, it is easily added to the table and can be selected. All business rules are

stored as libraries for future and common use across all applications.

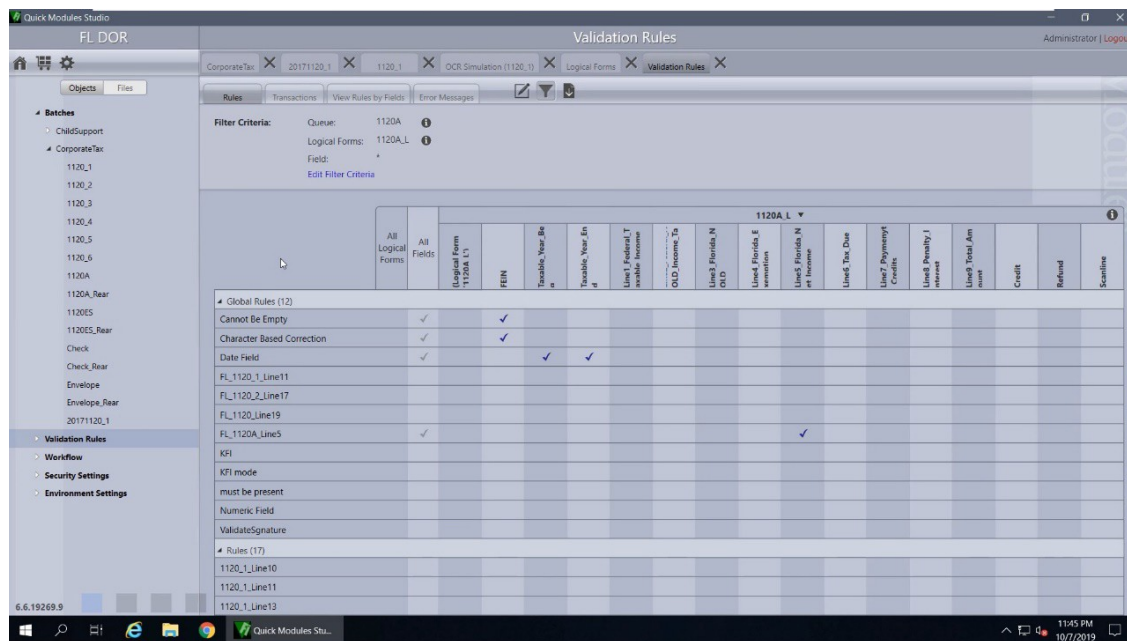


Figure 11 - Validation Rules Example

Because it is Web-based and is used in an Internet browser, the QMS user-friendly interface is easy to manipulate. You can also have multiple pages open at one time. For example, you can have two forms loaded and be able to copy the fields from one form page to the other form page. Another example of its ease of use is the ability to test the recognition on a form while designing the form.

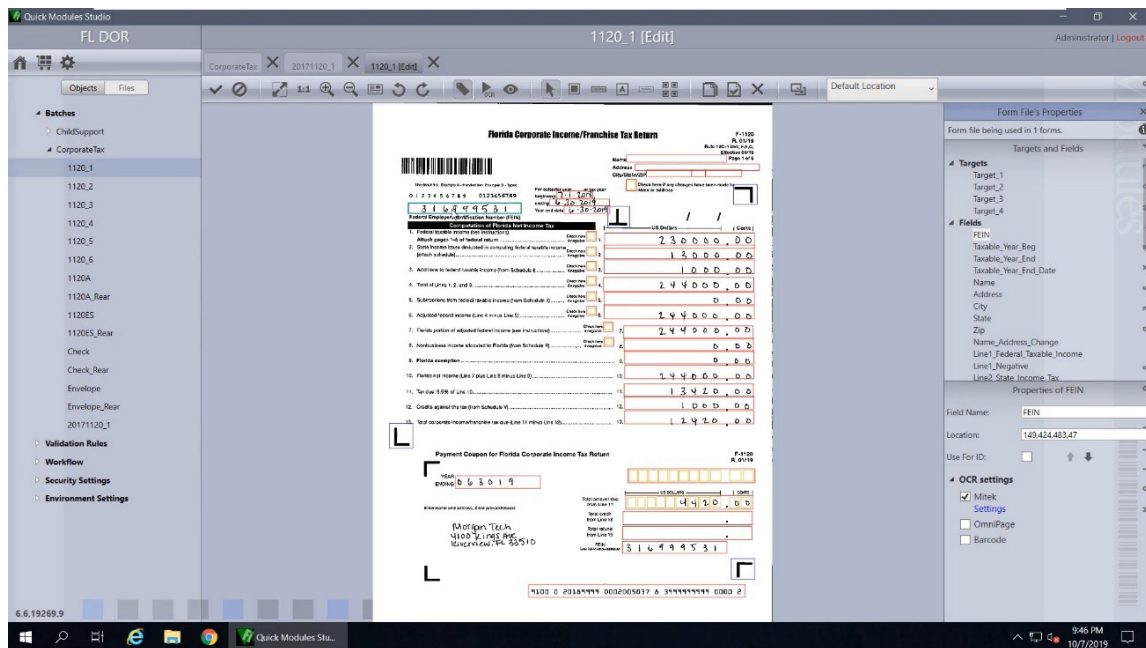


Figure 12 – Defining Fields for Recognition within QMS

Graphical Workflow Management

You can also develop and manage the *Quick Modules Workflow* in QMS. This includes creating queues for work and rules associated with each queue and workflow. The Workflow Designer provides access to everything needed to create a workflow. You can add processes easily and edit an existing process. The designer provides a graphical display of the logically flow of the system. At the highest level, the designer can link defined processing groups for the intended flow of the work through the system.

Queues are defined that allow the system to route and segment work based upon the needs of the client. For example, a user may have multiple queues that consist of a Balancing Queue, consisting of work specific to the balancing and validation of check amounts for quick verification in order to speed deposit as well as any number of form queues specific by form type to ensure operators work similar form types for speed of entry. Other queues may be created for such specific tasks as W2/1099 entry/validation, correspondence review, etc. Using the intelligence of the *Quick Modules QMS* development environment, the user can set a virtual batching process that allows intermixed form scanning while segmenting the work to the users electronically. The system can re-associate all the transaction into batches prior to output.

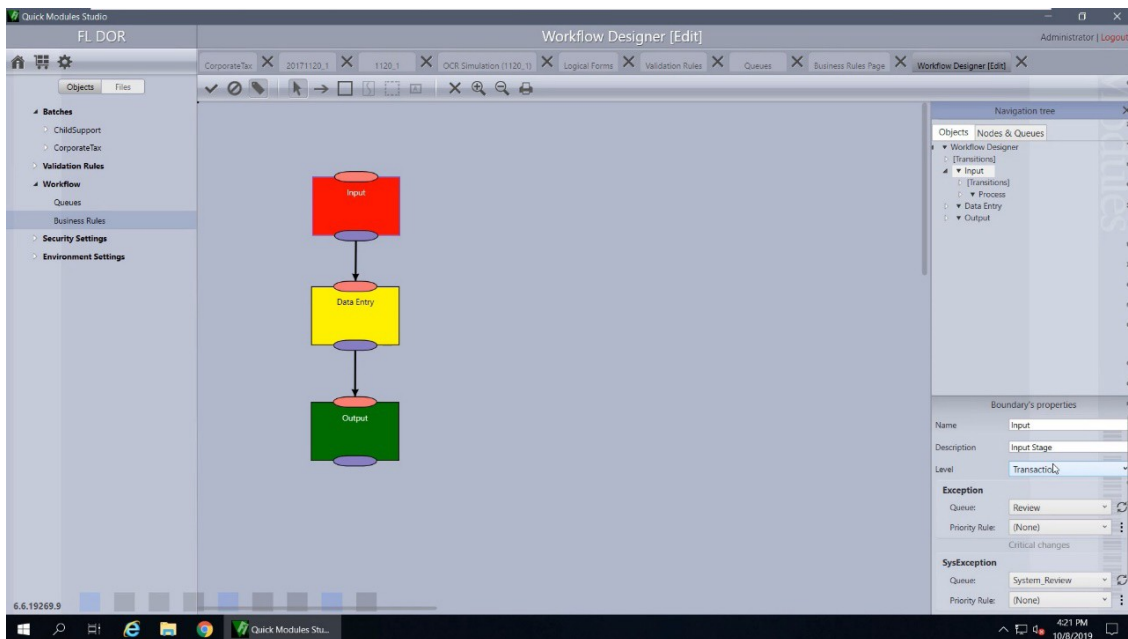


Figure 13 - QMS Graphical Workflow Design

Within each process, the developer can further define the exact business rules and flow of work through the system based upon a set of rules. Because it is a graphical interface, the workflow is defined by linking processes to create the overall workflow design. The screen below shows just one process in the above three processes defined.

The process in this example shows the scanned document going through *Quick Enhance* and then, through *Quick Capture* if the form is properly identified by the recognition engine. If the form is not automatically identified, it must go through the manual identification process first before going into *Quick Capture*. This is just one process in the workflow. Workflows can have several processes in them. All of this is managed and defined in QMS.

Security Settings

Groups of users can be defined in QMS for *Quick Modules*. Groups of users have different permission levels in terms of accessing features of the system. This is another method of providing security for the overall system.

Security for QMS is achieved through unique user names and passwords, which are customer configurable by the Administrator. In this development environment where business rules are defined, forms are set up for recognition, and many other system criteria are determined, system security is of paramount importance. QMS is only accessible by those personnel authorized to do so.