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June 20, 2019

The Honorable Ronald D. Kouchi,
President, and
Members of The Senate
Twenty-Ninth State Legislature
Hawaii State Capitol, Room 409
Honolulu, Hawaii 96813

The Honorable Scott K. Saiki,
Speaker, and
Members of The House of Representatives
Twenty-Ninth State Legislature
Hawaii State Capitol, Room 431
Honolulu, Hawaii 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation (IV&V) reports to the Legislature within ten days of receiving the report, please find attached IV&V Periodic Assessment Report the Office of Enterprise Technology Services received for the State of Hawaii Department of Taxation's Tax Modernization Program.

In accordance with HRS section 93-16, this report may be viewed electronically at http://ets.hawaii.gov (see "Reports").

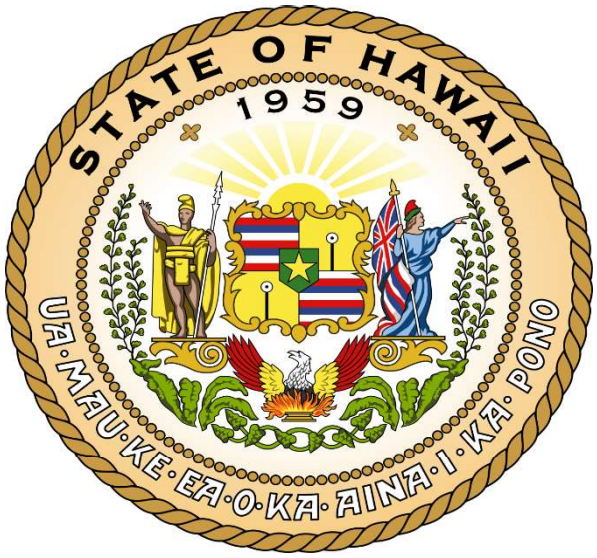
Sincerely,

Douglas Murdock (Jun 21, 2019)

DOUGLAS MURDOCK
Chief Information Officer
State of Hawai'i

Attachment (1)

TSM Tax System Modernization HAWAI`I



State of Hawaii Department of Taxation, Tax System Modernization IV&V Project

Periodic Assessment Report

Draft Submitted: May 10, 2019
Revision Submitted:
Final Submitted: May 24, 2019

Accuity LLP CERTIFIED PUBLIC ACCOUNTANTS

First Data.

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1.0 Document History

This document history reflects the Team Accuity Document Management Process for this document. To verify that the document is the latest version, please contact any member of the TSM IV&V Team.

Date	Description	Author	Version
04/02/19	Periodic Assessment Report Created	Elizabeth Grisham	1.0
05/03/19	Team Accuity Internal Peer Review & Updates	Elizabeth Grisham	1.1
05/08/19	Team Accuity Internal Peer Review & Updates	Elizabeth Grisham	1.2
05/09/19	Team Accuity Internal Peer Review Updated: Appendix B – References and Documents Reviewed; Removed resolved comments and accepted all track changes	Elizabeth Grisham	1.3
05/10/19	Team Accuity Internal Peer Review Updated: Verb tense references and clarified new findings.	Elizabeth Grisham	1.4
05/22/19	Team Accuity Updates per Project Review and Comments: - Section 5.1.2 Findings – added clarification regarding the intranet and communication methods - Section 5.1.1.a Outcome – added clarification regarding Knowledge Transfer - Section 5.2.1.b was produced in white text; reset the text color to black - Section 5.2.2.a Outcome – added clarification regarding contract information - Section 5.4.5.a Outcome – added clarification regarding the office move	Elizabeth Grisham	1.5

Table 1 – Document History

2.0 Executive Summary

This is the second and final Independent Verification and Validation (IV&V) report for which Team Accuity interviewed Tax System Modernization (TSM) Project Staff and conducted on-site artifact analysis associated with this assessment from March 18, 2019 – April 12, 2019. Team Accuity analyzed the implementation schedule and documents for the current phase of the TSM Project, provided a status on previous IV&V findings regarding progress to closure, and identified new IV&V findings and recommendations for resolution.

Team Accuity's IV&V findings and recommendations are categorized under four assessment areas: *TSM Project Plans, TSM Project Schedule, TSM Project and Contractor Staffing Levels, and the State's Organizational Capacity*. The Overall Project Health Assessment Ratings Comparison below showcases the prior and current assessments, with improvements in the *TSM Project and Contractor Staffing Levels* and *The State's Organizational Capacity*. Team Accuity reports a status on these assessment areas, with the details to follow in *Section 5.0 Overall Project Health – Periodic Assessment*. See Appendix D – IV&V Assessment Stoplight Legend for reference.

Overall Project Health Assessment Rating – Comparison				
Initial Report (Jan 2019)		**Periodic Report (May 2019)**		**Assessment Area**
🟡	**Cautionary**	🟡	**Cautionary**	TSM Project Plans
🟢	**Satisfactory**	🟢	**Satisfactory**	TSM Project Schedule
🟡	**Cautionary**	🟢	**Satisfactory**	TSM Project and Contractor Staffing Levels
🔴	**Unsatisfactory**	🟡	**Cautionary**	The State's Organizational Capacity

Table 2 - Overall Project Health Stoplight Comparison

The TSM Project remains stabilized for the delivery schedule and current implementation phase of the GenTax™ solution that also supports the infrastructure for Hawaii Tax Online. There are areas Team Accuity previously identified that still do not meet industry standard best practices, although those shortcomings will not affect the Project's ability to implement a modernized tax system and decommission the legacy system. Organizational change management, communications management, and risk management remain with concerns which may present

long-term project challenges, especially when tenured personnel are no longer with the project. A proposed contract amendment to enhance the Fast Service Agreement, which includes on-site Fast staff, extends the time for knowledge transfer (KT) activities and assists with capacity planning. Team Accuity continues to recommend that DoTAX employ alternative solutions to address organizational change management, knowledge transfer, and capacity planning.

Team Accuity identified new findings concerning communication sources and tools, testing processes and documentation, and system requirements validation. The risk with these areas are: stakeholders may not receive accurate project information at various stages of the project; inconsistent testing processes pose a risk for defect root cause analysis and requirements traceability; the delay in accepting the requirements may detract from traceability to system functionality and Department of Taxation (DoTAX) expectations. Team Accuity recommends that DoTAX consistently utilize the tools available to assist with disseminating timely information that is useful to the audience, tracking decisions made regarding system design and business functionality, identifying and documenting acceptable testing procedures that are employed consistently across teams, and traceabilty with requirements validation through testing to accept and approve implementation system requirements.

3.0 Background

The State of Hawaii, DoTAX, initiated the TSM project on July 15, 2014. Based on a Request for Proposals (RFP) procurement, DoTAX selected and contracted Fast Enterprises, LLC (Fast) to provide technical services to configure and deploy commercial off-the-shelf (COTS) software – *GenTax™* – to modernize its tax operations. The State of Hawaii, Office of Enterprise Technology Services (ETS) contracted Accuity LLP and First Data (Team Accuity) on behalf of the Department of Taxation (DoTAX) to perform an IV&V of the Tax System Modernization (TSM) implementation project. The State of Hawaii's ETS engaged Team Accuity September 1, 2018 to perform limited IV&V services for the DoTAX TSM Project.

The TSM Project is preparing for the final rollout of the 5-phased approach scheduled for deployment in September 2019, at which point the legacy system retires. All DoTAX staff will be using the *GenTax™* solution, and will be responsible for its maintenance and operations, as well as the public-facing Hawaii Tax Online (HTO) that interfaces with *GenTax™*.

Effective with the "warranty period" from July 2019 – July 2020, DoTAX assumes ownership and responsibility of the GenTax™ solution as they transition into the Maintenance and Operations (M&O) phase.

4.0 IV&V Assessment Methodology

Our methodology employs applications of industry standards and best practices and takes into consideration the unique environment of our individual engagements. When verifying and validating, experience has taught us that the full toolbox of methodologies is not a one size fits all. Using the available tools, such as assessment checklists, Team Accuity selected those appropriate to provide the best results for TSM to support the required IV&V processes and Federal guidelines. Team Accuity's experienced team utilizes industry standards and best practices from the sources listed in *Appendix C – IV&V Assessment Methodology Sources* to perform IV&V activities.

5.0 Overall Project Health – Periodic Assessment

Per Team Accuity's contract[1], this Periodic Assessment Report is the final deliverable and a status on prior findings will indicate any items for which IV&V has determined a resolution for closure. Remaining open prior and new findings will not be monitored by Team Accuity after this report is accepted as final. DoTAX and/or ETS assumes full responsibility for monitoring outstanding findings for resolution. DoTAX Executives and TSM Project stakeholders will need to assess the feasibility and prioritization of recommendations relative to DoTAX's business model and objectives given the current phase of the TSM Project implementation schedule.

Team Accuity's IV&V findings and recommendations are categorized under four assessment areas: *TSM Project Plans, TSM Project Schedule, TSM Project and Contractor Staffing Levels, and the State's Organizational Capacity.* New findings and recommendations are listed first and continue the numbering sequence found in the Initial Assessment Report. Prior findings and recommendations from the Initial Report are included with a status of each finding and outcome of each recommendation. Each assessment report contains a comment log, which may provide the reader with additional context.

5.1 TSM Project Plans

Status: Cautionary – Partially meets most industry standards. Key Recommendations.
Specific types of deliverable plans assist stakeholders in managing the project lifecycle consistently by aligning to business goals and objectives. With approximately three months left in the implementation phase of this project, updating all required project plans would not benefit the project; therefore, as agreed between DoTAX and Fast, some deliverables were discontinued while the function of others were incorporated into the primary workflow tool, Delivery Workbench. While project plans do not drive project success, the processes documented within do. The processes supporting the various project plans are the framework to supporting the longevity of the project. As DoTAX Executive Leadership made the decision to not update some deliverables for this project, best practice suggests that at least the processes that support the project management architecture should be documented and maintained for the duration of the project life cycle.

Team Accuity recommends that the project address IV&V findings identified below to align with industry standards as these plans and processes are critical for the successful transition to the TSM Project M&O phase. Three previous areas of concern that remain are communications, organizational change management, and risk and issue management. Additional

[1] State of Hawaii, Office of Enterprise Technology Services (ETS) Contract 62709 with Accuity LLP and First Data (Team Accuity) and Supplemental Contract No 1 to Contract 62706 (RFP-18-406).

recommendations may not be associated to a plan's process, but rather potential business changes that may positively effect a process associated to a project plan.

New IV&V Findings

New IV&V Findings – TSM Project Plans
5.1.2 Instead of updating the outdated Communication Plan, the Project indicated its focus on communication tools including the Project intranet site. Team Accuity noted that the Project intranet site, introduced in January 2019, has been updated twice and does not appear to provide traffic statistics. Team Accuity noted it was updated on January 18, 2019 and March 11, 2019. Although other communication methods have continued, if the intranet site becomes a primary communication tool to address internal divisions and district offices in neighboring islands, the risk to not updating this page is that such stakeholders will not have access to current project information or urgent business process changes, such as regulatory variations or key system functionality. If the information is outdated and not regularly maintained, staff may not consider utilizing this option as standard practice; thereby, negating its use in the first place.
5.1.3 Project meeting agendas and minutes are communication tools for the Project and are stored in Delivery Workbench tool, which has the capacity to record meeting discussion topics, assign action items, and identify attendees; this feature is not used consistently across all meeting organizers. The lack of consistent use across team members prevents the appropriate subject matter experts from attending meetings for which they are knowledgeable (agendas and attendees), unrecorded details of the topics discussed lead to a lack of accepted decisions (minutes), and unassigned responsible parties do not provide for accountable resolutions (action items).
5.1.4 The use of the *SQR Migration – Change Control Report*[2] as a Stakeholder communication tool for release notes is not effective in providing detailed information about the implemented changes relative to business use. Team Accuity finds that DoTAX managers haven't fully acquired the technical insight to assess the system functionality and associated business processes to communicate changes to staff.
5.1.5 The processes documented for testing do not appear to be consistently messaged or followed. The quality of system test documentation randomly sampled for Rollout 4 indicates potential risk for defect root cause analysis and requirements traceability to be effectively managed. The TSM Project has adequate test planning and processes in place and documented, as well as adequate tools to perform various phases of testing with traceability to requirements; however, testing staff do not appear to follow the documented process.

[2] Hard copy received from DoTAX: *SQR Migration – Change Control Report, dated 04-Apr-2019*

New IV&V Findings – TSM Project Plans
5.1.6 Project requirements are housed in the Delivery Workbench, which has the capability to record validation of the requirement and sign off from the Fast representative and the DoTAX, along with traceability to testing the requirements. There is a small portion of the 600-plus requirements that have been accepted by both Fast and DoTAX. With less than six months left in the implementation project, more requirements were expected to be accepted. Signoff is required to close out the project. The delay in accepting the requirements may detract from traceability to system functionality and DoTAX expectations, specifically with the assessment of cost/no-cost changes and vendor accountability implementing requirements as defined. Further risk could be associated with project close out and invoicing for budgetary purposes and planning.

Table 3 – New IV&V Findings – TSM Project Plans

New IV&V Recommendations

New IV&V Recommendations – TSM Project Plans
5.1.2 Utilize the DoTAX intranet site as a main source of information for various internal stakeholders with more frequent updates. Also consider tracking the number of visitors so the project team can monitor if the website is being used as an effective communication tool.
5.1.3 Employ a consistent application utilizing the Delivery Workbench features regarding meeting agendas, attendees, action items and minutes across all project areas and meeting organizers.
5.1.4.a Effective communication needs to be meaningful to the audience. And in all cases, solution changes must be written so that they are accessible, understandable, and relevant for the intended audience. Additionally, someone with department / business area understanding could create a more targeted communication Enhance Stakeholder communications should clearly state: - the message in terms the targeted audience understands and should be not over use technical jargon and then only with a definition or explanation of the term - the change and the impact to the target audience - any action the audience needs to take - any additional changes anticipated by the change - references or links to FAQs and allow the audience with the opportunity to provide feedback
5.1.4.b Communicate changes early, often and tailored to the receiving audience to increase ownership and buy-in of changes. Managers and Supervisors need timely and effective project information so they can support the change openly and visibly, and communicate confidently about why the change is occurring, what is in it for the employees, and what the expected benefits are from the organization. Provide key project messages regarding change in a concise, clear manner allowing employees to understand why, how and what changes are being made to reduce misunderstandings and reduce resistance. Consider utilizing *Procsi's Communication Checklist for Achieving Change*[3] as a

[3] Prosci's Communication checklist and references can be publically accessed from this web address: https://www.prosci.com/resources/articles/change-management-communication-checklist

New IV&V Recommendations – TSM Project Plans
tool to assess communication change management. Additionally, *Prosci's Checklist for Your Change Management Approach*[4] also includes topics for communication.
5.1.5 Re-educate testers on the planned process for testing, particular to system test documentation and requirements traceability. DoTAX may want to re-evaluate their process steps and expectations for testing as the plans for each rollout have been authored by Fast. During M&O when DoTAX is responsible for process documentation, any business changes to the testing process should be updated in the Test Plan, which can also serve as a training and knowledge transfer vehicle in succession planning.
5.1.6 Continue to use the Delivery Workbench to accept requirements as validated according to expectations. Utilization of system test traceability (see Recommendation 5.1.5) and documentation can be used to link requirements that have been validated in system test. Re-assess system test processes to incorporate testing linkage so that requirements can be approved by Fast and DoTAX in a more timely fashion.

Table 4 – New IV&V Recommendations – TSM Project Plans

Prior IV&V Findings - Status

Prior IV&V Findings – TSM Project Plans	Status
5.1.1 Several deliverables created for the TSM effort show a last updated date of 2017 or earlier; these deliverables include: Project Management Plan, Resource Plan, Communication Strategy and Plan, Requirements Management Plan, Issue and Action Item Tracking, OCM Approach, OCM Effectiveness Assessment, Knowledge Transfer Plan, to name a few. Although a Risk Management Plan is not in the required deliverables, the Issue and Action Item Tracking is part of the deliverables, which should address risks. A Risk Management procedure exists, but is outdated. In addition, a schedule management approach does not appear to exist. As IV&V assesses the project using proprietary checklists against industry standards, predominately IEEE and PMBOK for this project, several standard plans were absent and equivalents could not be found in the documents that Fast supplied. Requirements traceability plans have not been updated since June 2016. Team Accuity was not able to verify that TSM Project staff follow all deliverable plans, and in some instances, outdated tools indicate that activities associated with plans, such as risk management, have halted.	Open for Communication, OCM, and Risk/Issue Management

Table 5 – Prior IV&V Findings – TSM Project Plans

[4] Prosci's Change Management checklist and references can be publically accessed from this web address:

https://cdn2.hubspot.net/hubfs/367443/2.downloads/worksheets/Checklist-for-your-change-management-approach.pdf

Prior IV&V Recommendations - Status

Prior IV&V Recommendations TSM Project Plans	Outcome
5.1.1.a Update the Knowledge Transfer (KT) Plan(s). Last updated with Rollout 3, this plan is vital guidance for DoTAX to prepare for GenTax ownership. The KT Tool implemented to track DoTAX knowledge acquisition has not been maintained, thereby creating a challenge to ascertain DoTAX's readiness for transition (see Section 5.4 regarding the KT Tool). This activity runs conjunctively with Organizational Change Management (OCM).	Addressed – The Knowledge Transfer (KT) Plan was not updated after Rollout 3 as the DoTAX management at that time indicated that KT would take place during warranty. In order to facilitate Knowledge Transfer in Rollouts 4 and 5, development for changes and enhancements have been assigned to DoTAX technical teams. DoTAX has requested legislative funding[5] to secure additional professional services and enhance the Fast Service Level Agreement providing additional vendor services to support Maintenance and Operations which includes on-site Fast staff. This partially mitigates the immediate need for completed Knowledge Transfer activities by July 2020.
5.1.1.b Update the OCM Plan. Paired with the KT Plan(s) and Communication Plan, DoTAX manages the OCM. Fast collected and documented Change Readiness Assessment data that DoTAX can use to define the road map to progression. Current stakeholders and sponsors are part of the business process reengineering and organizational change, driving project success from the top down. Given the implementation timeline, an outside change management vendor may not be cost beneficial, while utilizing existing resources from Fast as mentors and engaging DoTAX staff as change champions might be cost neutral.	In Progress – The current change champions have been identified as the DoTAX Director and TSM Project Managers. For example, with Rollout 5 mandatory e-filing tax types (liquor, tobacco, fuel) and the automation of tax clearance, organizational change management is being led by the TSM Project Managers. There are identified business process changes documented in Delivery Workbench for which analysis is being tasked out.
5.1.1.c Update the Risk Management Procedure and Risk Management Tool per best practices and industry standards (PMBOK, ADKAR, ISO/IEC/IEEE 15288-2015, ISO/IEC/12207-2017, IEEE 828 -2012). Address risks currently listed in the Risk Tool.	In Progress – Incoming TSM Project Management conducted and documented a "*TSM Project Situation Analysis*" in July 2018 that identified opportunities for improvement (16 items). DoTAX has identified in a point-in-

[5] Hawaii State Legislature, House Bill 2 – Reference document: EXEC-HB2-CD1-Worksheets.pdf, Legistaive Budget System, Budget Worksheet , TAX107 Supporting Services, Page 752

Prior IV&V Recommendations TSM Project Plans	Outcome
Identify responsible parties for risk management activities, including reporting lines of communication and stakeholders, frequency and documentation of risk management meetings, risk factor(s), risk owner, mitigation options, solution options, discovery/closure dates, and escalation protocol. Engage stakeholders to participate in the Risk Management protocol. Document and communicate risks with a consistent frequency. Update the current Risks and Issues log (new or mitigated) with any items as a result of this assessment.	time (R5) 2019 SWOT[6] the following and shared with some DoTAX staff (BAs and system testers at R5 Kickoff Meeting). Team Accuity has observed some TSM Project Meetings and documentation where concerns, risks, and issues are communicated, mitigation options are discussed and an action owner assigned for follow up and reporting. Some meetings are informal (without an agenda and minutes) while other meetings are formal (with an agenda and minutes). Although the process of addressing concerns is adequately covered within the meeting/agenda/minute sphere if utilized consistently across staff (see 5.1.3), risks and issues pose project threats to the scope, schedule and cost and should continue to be addressed using Project Management best practices (utilizing a Risk Log and a Risk Management Plan/Process).
5.1.1.d Update the Communications Plan. Identify the current project stakeholder groups and the types of communication needed for each audience. The public is part of the communications plan when they are also users of the system. Identify, test, and maintain project communication channels. Identify Risk Management stakeholders as a group and cross-reference in the Risk Management Plan. Communication related to OCM should be included and cross-referenced in the OCM Plan as well.	In Progress – Recommendation for this finding has not been addressed by DoTax, and remains an open finding. Communication Plan remains outdated and no new processes are documented. Team Accuity observed: no process document outlining key communication activities based on stakeholder needs; no process to monitor or determine communication needs of stakeholders; no dedicated communication resource; no consistent type of communication activity. Best practice[7] recommends these topics are typically addressed in a formal communication plan.

[6] This slide title was captured and covered in the PowerPoint Presentation "*TSM Project Next Steps (April – September 2019)*".

[7] PMBOK best practices for Project Communications Management are three parts: 1) A formalized communications approach defining the information needs of project stakeholders and appropriate communication activities based on those needs; 2) Timely and appropriate delivery of communications, and 3) Monitoring communications to determine if the information needs of project stakeholders are met.

Prior IV&V Recommendations TSM Project Plans	Outcome
	Team Accuity identified several ways that the project team is disseminating information internally including the Project intranet, meetings, periodic emails, and a change request migration report that contains "release notes" (see footnote 2). Team Accuity recommends DoTAX develop processes to monitor communication needs and determine various communication activities. A communications resource (even if part-time) can help ensure ongoing successful project outcomes even into the training, knowledge transfer, and M&O phases.
5.1.1.e Update the Requirements Management Plan along with the requirements traceability matrix to include all missing rollout information**.** Requirements traceability is *"used to help ensure that the solution conforms to requirements and to assist in scope, change, risk, time, cost, and communication management. It is also used to detect missing functionality or to identify if there is implemented functionality that is not supported by any requirement."*[8]	Addressed – The Plan will not be updated as the documentation is captured in the Delivery Workbench and it satisfies the contractual obligation. Team Accuity observed documentation in the FCR Delivery Workbench (by Rollout) requirements traceability by subsystem. The requirement is numerically linked to the RFP Response and has the capability to document Fast and DoTAX approval for sign off.

Table 6 – Prior IV&V Recommendations – TSM Project Plans

5.2 TSM Project Schedule

Status: Satisfactory – Meets most industry standards. Few Recommendations.

Team Accuity discovered no new findings for this area, and one prior finding is still outstanding. Fast utilizes a proprietary software package that contains project management tools, eliminating the need for outside software applications. Delivery Workbench contains a Gantt Chart schedule for each rollout, along with separate planned and actual start/end dates, the capability to assign tasks and sub tasks ("To-Dos") with activity history. Missing from their tool is the ability to quickly ascertain over/under allocated resources from this view. Although this is not a Microsoft Project Plan™ (MPP), the vendor tools satisfy the needs of the project and DoTAX.

[8] Industry Standard: IIBA BOK 3rd Edition, Trace Requirements, Section 5.1.2, p89

As a finding from the Initial Report, DoTAX is preparing a contract amendment that will address the change in the final phase implementation date from July 2019 to September 2019.

New IV&V Findings

New IV&V Findings – TSM Project Schedule
No new Findings for this Assessment Report

Table 7 – New IV&V Findings – TSM Project Schedule

New IV&V Recommendations

New IV&V Recommendations – TSM Project Schedule
No new Recommendations for this Assessment Report

Table 8 – New IV&V Recommendations – TSM Project Schedule

Prior IV&V Findings– Status

Prior IV&V Findings – TSM Project Schedule	Status
5.2.1 A current project schedule was found in the central repository (FCR) within a Word document listing only milestone/phased rollout "go live" dates; however, the schedule did not provide detailed tasks, dates, or responsible parties for the tasks. Team Accuity could not verify progress percentages, over/under allocated resources, schedule feasibility, or other values of schedule completeness.	Mitigated
5.2.2 The current Fast supplemental contract[9] still identifies Phase 5 "go live" date as July 2019, yet the milestone schedule indicates a "go live" date of September 2019.	In Progress

Table 9 – Prior IV&V Findings – TSM Project Schedule

Prior IV&V Recommendations – Status

Prior IV&V Recommendations TSM Project Schedule	Outcome
5.2.1.a Revise and continuously update the project implementation schedule with a work breakdown structure, including task start and stop dates, and responsible parties. The activities include the	Addressed – Fast utilizes a proprietary software package that contains project management tools, eliminating the need for outside software applications. Delivery

[9] Hawaii State Department of Tax Supplemental Contract 3 with Fast Enterprises, effective 10/08/18

Prior IV&V Recommendations TSM Project Schedule	Outcome
estimated duration and the required resources. Every activity, except the first and last activities, should be connected to at least one predecessor and at least one successor with an appropriate logical relationship. In addition, the critical path is determined including identifying any high risk activities and any activities with lead or lag times. A resource breakdown structure may be necessary to determine the number of available resources with the required skills.	Workbench contains a Gantt Chart schedule for each Rollout, along with separate planned and actual start/end dates, the capability to assign tasks and sub tasks ("To-Dos") with activity history. Missing from their tool is the ability to quickly ascertain over/under allocated resources from this view. Although this is not a MPP™ file, the vendor tools satisfy the needs of the project and the client.
5.2.1.b Devote attention to the current project phase for the final rollout and transition period for DoTAX to take ownership of GenTax, identifying KT activities and owners. This will enable DoTAX to monitor productivity within the schedule, which could influence changes in scope and resources (monetary and personnel), and manage potential risks more effectively.	Addressed – Fast utilizes a proprietary software package that contains project management tools, eliminating the need for outside software applications. Delivery Workbench contains a Gantt Chart schedule for each Rollout, along with separate planned and actual start/end dates, the capability to assign tasks and sub tasks ("To-Dos") with activity history. DoTAX will be able to utilize the features of Delivery Workbench to manage their ongoing project schedule, regardless of phase. Delivery Workbench has the capability to manage tasks and assignments and associate them to a schedule, either in a phase or overall. KT activities can be identified as tasks and assigned appropriately. For example, tasks are identified in Tech Team Production Support and Sync Pack - Site Sync with assignment to DoTAX staff. Further KT findings and mitigation are addressed outside of this finding.
5.2.2.a DoTAX should assess if there is a contract modification needed to alter the Rollout 5 "go live" date and the current contract is milestone based for invoicing and payment.	In Progress – A Supplemental Contract (amendment) is being prepared which will include the change in Rollout 5 "go live" date from July 2019 to September 2019.

Table 10 – Prior IV&V Recommendations – TSM Project Schedule

5.3 TSM Project and Contractor Staffing Levels

Status: Satisfactory – Meets most industry standards. Few Recommendations.

Team Accuity discovered no new findings for this area, and all prior findings have been mitigated. Fast utilizes a proprietary software package that contains project management tools, eliminating the need for outside software applications. Delivery Workbench has the capability to manage tasks and assignments and associate them to a schedule, either in a phase or overall. DoTAX provided Team Accuity with a hard copy of Team Assignments for R5 and SQR Support (see footnote 6) that identifies specific roles, staff names, and system coverage responsibilities. These same attributes can be recorded in Delivery Workbench. DoTAX also provided Team Accuity with a hard copy of a Tech Team Agenda that identifies the DoTAX (ITSO) Tiers/Assignments and Resources by Area (including primary and back-ups). Additionally, this agenda also contains a resource visual diagram for TSM Applications and TSM Infrastructure. DoTAX has identified in their 2019 SWOT analysis (see footnote 6) a need for additional resources and requested legislative funding (see footnote 5) to secure additional professional services and enhance the Fast Service Level Agreement to support Maintenance and Operations, which includes on-site Fast staff.

New IV&V Findings

New IV&V Findings – TSM Project and Contractor Staffing Levels
No new Findings for this Assessment Report

Table 11 – New IV&V Findings – TSM Project and Contractor Staffing Levels

New IV&V Recommendations

New IV&V Recommendations – TSM Project and Contractor Staffing Levels
No new Recommendations for this Assessment Report

Table 12 – New IV&V Recommendations – TSM Project and Contractor Staffing Levels

Prior IV&V Findings– Status

Prior IV&V Findings – TSM Project and Contractor Staffing Levels	Status
5.3.1 Team Accuity found the resource plan deliverable document updated in July 2016 (Rollout 3), and the resource spreadsheet updated in March 2016 (Rollout 2)[10]. There are formal resource plans and tracking spreadsheets used in	Mitigated

[10] Resource Spreadsheet R2 03152016.xlsx; file last modified 3/1/16; • All TSM Resource Spreadsheet R2, All TSM Resource Spreadsheet.xlsx; file last modified 3/29/16; Del. #5 Resource Plan – R3.docx version 2.0, version date 7/28/16.

Prior IV&V Findings – TSM Project and Contractor Staffing Levels	Status
prior rollouts; however, there does not appear to be an updated resource plan Rollout 4 or for Rollout 5.	
5.3.2 Fast deliverables recommend specific DoTAX roles to assume ownership of GenTax, based on their solution delivery history and lessons learned from other states – particularly for organizational change and KT. Team Accuity was unable to validate the number of TSM Project and contractor staff, as references were not complete or absent for the assessment (TSM Project Schedule, resource plans, and spreadsheet), specifically Rollout 4 and Rollout 5 documents.	Mitigated
5.3.3 Lessons Learned documented from Rollout 3 identified ten (10) entries related to staffing levels, particularly with DoTAX developers and subject matter experts (SMEs) for testing.	Mitigated

Table 13 – IV&V Findings – TSM Project and Contractor Staffing Levels-Prior

Prior IV&V Recommendations – Status

Prior IV&V Recommendations TSM Project and Contractor Staffing Levels	Outcome
5.3.1.a Utilize a Project Plan/Scheduler with tasks, duration, and staff assigned to determine over/under allocated resources to assist with staff load balancing and projections.	Addressed – Fast utilizes a proprietary software package that contains project management tools, eliminating the need for outside software applications. Delivery Workbench contains a Gantt Chart schedule for each Rollout, along with separate planned and actual start/end dates, the capability to assign tasks and sub tasks ("To-Dos") with activity history. Delivery Workbench has the capability to manage tasks and assignments and associate them to a schedule, either in a phase or overall. DoTAX provided Team Accuity with hard copy of Team Assignments for R5 and SQR Support (see footnote 6) that identifies specific roles, staff names, and system coverage responsibilities. These same attributes can be recorded in Delivery Workbench.
5.3.1.b If under allocated resources cannot be reallocated from within DoTAX, a feasibility study or cost benefit analysis may support resource acquisition from outside the DoTAX resource pool.	Addressed – DoTAX has already identified in their SWOT analysis (see footnote 6) a need for additional resources and requested legislative funding (see footnote 5) to secure additional professional services and enhance

Prior IV&V Recommendations TSM Project and Contractor Staffing Levels	Outcome
	the Fast Service Level Agreement providing additional vendor services to support Maintenance and Operations which includes on-site Fast staff.
5.3.2.a Define the TSM Project personnel expectations, positions, and level of engagement required, post implementation phase.	Addressed – DoTAX has already identified in their 2019 SWOT analysis (see footnote 6) a need for additional resources and requested legislative funding (see footnote 5) to secure additional professional services and enhance the Fast Service Level Agreement to support Maintenance and Operations, which includes on-site Fast staff. DoTAX provided Team Accuity with a hard copy of a Tech Team Agenda that identifies the DoTAX (ITSO) Tiers/Assignments and Resources by Area (including primary and back-ups). Additionally, this agenda also contains a resource visual diagram for TSM Applications and TSM Infrastructure. Through functional questionnaires, Team Accuity was able to ascertain level of ownership.
5.3.2.b Engage DoTAX personnel who have the authority to adjust staffing changes within the department to support the M&O of GenTax as the responsible party.	Addressed – DoTAX has already identified in their 2019 SWOT analysis (see footnote 6) a need for additional resources and requested legislative funding (see footnote 5) to secure additional professional services and enhance the Fast Service Level Agreement to support Maintenance and Operations, which includes on-site Fast staff.
5.3.2.c Engage personnel and/or other administrative offices to assist with regard to staffing changes, skill set requirements, civil-service classes, and budgeting (personnel costs).	Addressed – DoTAX has already identified in their 2019 SWOT analysis (see footnote 6) a need for additional resources and requested legislative funding (see footnote 5) to secure additional professional services and enhance the Fast Service Level Agreement to support Maintenance and Operations, which includes on-site Fast staff.
5.3.3.a Research the R3 Lessons Learned (LL) entries focused on staffing and determine if they are still applicable to the current business model and	Addressed – DoTAX has a development team of 14 full time developer positions. SMEs have been assigned to the project as needed. Team Accuity has observed FAST developer

Prior IV&V Recommendations TSM Project and Contractor Staffing Levels	Outcome
schedule, and if there have been any changes to correct deficiencies: - LL#49 Increased involvement of DoTAX developers - LL#52 Include DoTAX developers more on configuration - LL#71 DoTAX resource testing better - LL#80 Lack of involvement from ITSO developers in Service Desk review - LL#84 Determine who is direct contact for disaster recovery and security - LL#113 Not enough testing resources - LL#114 Testing resources pulled back by section managers - LL#116 Need for testers with prior TSM testing experience - LL#177 State-side training resource - LL#190 Issues related to testing resources	training for non-developers (4/3/2019) administered to DoTAX TSM Project Managers and Business Analysts. FAST has also documented and presented Tester Training in R4 (planned for R5), Test Scenario Writing in R4 (planned for R5), Knowledge Transfer for Captiva in R4, Learning Manager & Communication in R4 (planned for R5), Hawaii Tax Online CBT Maintenance, and Rollout 5 Training.

Table 14 – IV&V Recommendations – TSM Project and Contractor Staffing Levels-Prior

5.4 The State's Organizational Capacity

Status: Cautionary – Partially meets most industry standards. Key Recommendations.

Team Accuity discovered no new findings for this area, and there are three prior findings still outstanding. DoTAX has already identified in their 2019 SWOT analysis (see footnote 6) a need for additional resources and requested legislative funding (see footnote 5) to secure additional professional services and enhance the Fast Service Level Agreement to support Maintenance and Operations, which includes on-site Fast staff. DoTAX also supplied Team Accuity with a hard copy of the TSM Transition Planning Overview (see footnote 6), which covered the following areas: Infrastructure, Database, and Security; Application Development; Analysts; and Administration.

New IV&V Findings

New IV&V Findings – The State's Organizational Capacity
No new Findings for this Assessment Report

Table 15 – New IV&V Findings – The State's Organizational Capacity

New IV&V Recommendations

New IV&V Recommendations – The State's Organizational Capacity
No new Recommendations for this Assessment Report

Table 16 – New IV&V Recommendations – The State's Organizational Capacity

Prior IV&V Findings– Status

Prior IV&V Findings – The State's Organizational Capacity	Status
5.4.1 There is no formal DoTAX organizational Resource Plan for post-implementation (after Rollout 5). The DoTAX resource roles are not defined and allocated in the Resource Plan to support the GenTax application for post implementation. The skillset of DoTAX's staff was not documented and not available to determine gaps in the "as-is" and "to-be" processes to accommodate the on-going M&O of the GenTax solution. Please see Section 5.3 narrative regarding resource plans.	In Progress
5.4.2 The KT Tool implemented to track DoTAX knowledge acquisition was last modified 8/31/2017, thereby creating a challenge to ascertain DoTAX's readiness for transition (see Section 5.1 regarding the KT Plan).	Mitigated
5.4.3 There is no documented Systems Turnover/Transition Strategy for GenTax and systems outside of GenTax for the participating DoTAX teams. This strategy outlines the process for DoTAX assuming system responsibilities, when and how, and impacts the number and type of human resources needed to carry out the process.	Mitigated
5.4.4 Neither DoTAX nor Fast has identified an OCM role. DoTAX has not identified a training coordinator.	In Progress
5.4.5 The DoTAX developers assigned to the TSM Project are not co-located with the rest of the TSM Project Team, specifically the Fast developers, to engage in the iterative development approach and KT.	Mitigated
5.4.6 The KT period is to occur during the warranty period, according to the last updated risk log. Team Accuity could not validate if this risk has been mitigated. If initiated during the warranty period, access to Fast staff may be reduced as they transition off the project due to the service level agreements that start during the warranty period.	Mitigated

Prior IV&V Findings – The State's Organizational Capacity	Status
5.4.7 A finding made by the prior IV&V vendor described the risk of insufficient call center capacity to handle increased call volume after a rollout and the related recommendation to adjust the configuration in the IVR system to enable the planned level of callers on hold, and analyze if an increase in call center staffing is needed. Team Accuity could not verify if an analysis from Rollout 3 on call center volume, wait times, dropped calls, and issues logged was conducted to determine the impact on IVR with the expected increase of Rollout 4 online users.	In Progress

Table 17 – Prior IV&V Findings – The State's Organizational Capacity

Prior IV&V Recommendations – Status

Prior IV&V Recommendations The State's Organizational Capacity	Outcome
5.4.1.a Develop a Resource Plan for post-implementation (after Rollout 5) that defines the skillset needed for each role defined and allocated for M&O.	Addressed – The DoTAX Technical team has a resource/assignment chart[11]; System Test has a resource/assignment chart, TSM Project Team Assignments for R5 and SQR Support (see footnote 6); TSM Project resources identified for R5 (DoTAX and FAST) by functional area, TSM Project Team Assignments for R5 and SQR Support (see footnote 6). Some of the necessary skillsets are inherit to the assignments; however, role skillsets are not spelled out as expected in the absence of a formal resource plan. The intent is continue the resource/assignments past R5.
5.4.1.b Assess the current skillset of assigned TSM DoTAX resources and do a gap analysis with the desired skillset required to support the staffing model post implementation.	In Progress – The ITSO Manager will be assigned to conduct a situational/gap analysis about the technical readiness.
5.4.2.a Reexamine the staffing lessons learned from prior Rollouts to close any outstanding gaps previously	Addressed – DoTAX has already identified in their 2019 SWOT analysis (see footnote 6) a

[11] Tech Team Agenda that identifies the DoTAX (ITSO) Tiers/Assignments and Resources by Area (including primary and back-ups); this agenda also contains a resource visual diagram for TSM Applications and TSM Infrastructure

Prior IV&V Recommendations The State's Organizational Capacity	Outcome
identified and include in the KT Tool and Plan (see Section 5.1).	need for additional resources and requested legislative funding (see footnote 5) to secure additional professional services and enhance the Fast Service Level Agreement to support Maintenance and Operation, which includes on-site Fast staff.
5.4.3.a Develop a Transition Plan that addresses the staffing capacity for DoTAX that compensates for the loss of GenTax vendor support in alignment with the M&O for the software. Consider defining a functional and technical Transition Plan to correlate the systems maintenance to the operational support.	Addressed – DoTAX has already identified in their 2019 SWOT analysis (see footnote 6) a need for additional resources and requested legislative funding (see footnote 5) to secure additional professional services and enhance the Fast Service Level Agreement to support Maintenance and Operation, which includes on-site Fast staff. DoTAX also supplied Team Accuity with a hard copy of the TSM Transition Planning Overview (see footnote 6), which covered the following areas: Infrastructure, Database, and Security; Application Development; Analysts; and Administration.
5.4.4.a Fast should assign a SME to address OCM and recommend amount of role types typically needed to support M&O for a project of similar size and scope used in DoTAX.	Addressed – FAST brought in SMEs (e.g., fraud, audit, collections) to assist DoTAX with OCM in the course of this project. Per FAST Training Coordinator, Fast OCM SME checks in monthly to provide guidance.
5.4.4.b DoTAX should assign a SME to lead OCM and engage the Fast SME to assist with planning and documentation and be listed in the Resource Plan.	Addressed – A System Turnover/Transition Plan will be developed based on the Situational/Gap Analysis. The initial change champions have been identified as the DoTAX Director and TSM Project Managers. For example, with Rollout 5 mandatory e-filing tax types (liquor, tobacco, fuel) and the automation of tax clearance, organizational change management is being led by project staff. There are identified business process changes documented in Delivery Workbench for which analysis is being tasked out.
5.4.4.c DoTAX should identify a training coordinator in the Resource Plan who can provide the document updates to existing production training materials, Computer Bases Trainings (CBTs), course	In Progress – DoTAX doesn't have a training coordinator position. DoTAX is currently evaluating who will take on that responsibility post R5. DoTAX operation

Prior IV&V Recommendations The State's Organizational Capacity	Outcome
updates/development, training schedules for system changes, FAQ updates, and coordination of new hire training package (modules).	managers are responsible for assigning associated GenTax CBTs based on their functional position (modules). System training for additional areas outside of the user's baseline role are currently requested and assigned through the Fast Training Coordinator.
5.4.5.a DoTAX should look at co-location alternatives that can house all the developers (Fast and DoTAX) together to facilitate KT.	Addressed – The current TSM Project office will be shut down by October 31, 2019. All TSM Project staff, including the developers, will be co-located at the "Punchbowl" DoTAX office no later than November 1, 2019, if not sooner. Communication will be disseminated to staff.
5.4.6.a DoTAX to clarify when the KT period is to occur. Team Accuity recommends that DoTAX document and engage the KT process prior to the reduction in vendor SMEs familiar with GenTax configurations for DoTAX. The risk to not adopting this recommendation may lead DoTAX to increase their service level during the warranty period for the maintenance and operations, which would require additional funds to support.	Addressed – DoTAX has requested legislative funding (see footnote 5) to secure additional professional services and enhance the Fast Service Level Agreement providing additional vendor services to support Maintenance and Operations, which includes on-site Fast staff. This partially mitigates the immediate need for completed Knowledge Transfer activities by July 2020.
5.4.7.a Utilize metrics associated to call volumes that are relative to the time periods from prior years and analyze if the current IVR staffing model will support the increased public users of Hawaii Tax Online. Team Accuity recommends DoTAX to assess if the current IVR staffing model will support the increased public users for Rollout 4. Analyze data from Rollouts 3 and 4 on call center volume, wait times, dropped calls, and issues logged.	In Progress – DoTAX leadership is provided with reports about operational performance, including the contact center performance. Team Accuity examined the Executive Activity Summary for HIP reports noting call rejects and disconnects, and average wait times are still high. As call volume is lower in the afternoons, IVR staff should analyze documentation for closed calls and update information sharing tools, such as knowledge base and frequently asked questions.

Prior IV&V Recommendations The State's Organizational Capacity	Outcome
5.4.7.b Document a contingency plan to acquire additional call center support staff should the analysis warrant an increase in resources.	Addressed – DoTAX leadership is provided with reports about operational performance, including the contact center performance. The call center appears to have adequate staffing. The continuing issue with queue rejects and long wait times are due to period of high call volume such as the mornings.

Table 18 - Prior IV&V Recommendations – The State's Organizational Capacity

6.0 Approval and Sign-Off

The following reviewers and approvers are authorized project officials whose signature can attest to the deliverable meeting the acceptance criteria. An e-signature is also acceptable with a corresponding acceptance email as confirmation.

This Deliverable has amendments. ☐

*I have reviewed this **TSM IV&V Periodic Assessment** and attachments as submitted for approval. My signature/e-signature via email attests that this document has undergone a peer and quality assurance review.*

IV&V Deliverable Project Submitter – Sign Off		
Signature:		Date: 5/24/2019
Printed Name:	Chris Ichiki	
Role/Title:	IV&V Project Manager	
Agency:	Team Accuity	

*I have received this **TSM IV&V Periodic Assessment** and all attachments as submitted. My signature/e-signature via email attests that this document has meet the requirements and is accepted as approved.*

IV&V Deliverable Project Approvers – Sign Off		
Signature:		Date:
Printed Name:	Todd Omura	
Role/Title:	Project Sponsor – IT Governance	
Agency:	State of Hawaii, Enterprise Technology Services	

Appendix A – IV&V Activities

Meetings Observed

- March 22, 2019: Fast Central Repository Delivery Workbench Walkthrough for IV&V
- April 1, 2019: TSM Project Rollout 5 Kickoff Meeting
- April 2, 2019: DoTAX BA Developer Training for Non-Developers
- April 3, 2019: TSM Project Technical Team Meeting
- April 4, 2019: TSM Project Developer Meeting

Interviews Conducted

- March 27, 2019: TSM Project Production Support (DoTAX)
- March 27, 2019: TSM Project Technical Infrastructure (Fast)
- March 27, 2019: TSM Project Training Team (Fast)
- March 28, 2109: TSM Project Development Lead (DoTAX)
- April 1, 2019: TSM Project Business Analysts (DoTAX)
- April 1, 2019: TSM Project Managers (DoTAX)
- April 1, 2019: TSM Project Manager (Fast)
- April 1, 2019: TSM Project Development Lead (Fast)
- April 1, 2019: TSM Project Testing Lead (Fast)
- April 2, 2019: DoTAX Tax Clearance Managers
- April 9, 2019: DoTAX Executive Director/Sponsor
- April 10, 2019: DoTAX Revenue Accounting Branch Chief
- April 10, 2019: DoTAX Taxation Services Administrator

Appendix B – References and Documents Reviewed

Appendix B – TSM References and Documents Reviewed
Application Security Plan – R4 (updated 9/1/2018) Del# 25
Communication Strategy and Plan – R3 (3/9/17) Del# 6
Configuration Management Policies and Procedures – R5 (updated 6/29/2018) Del# 26,29
Conversion Plan – R5 (updated 11/7/2018) Del# 20,37
Developer Meeting Presentations R5 - Various documents for the DoTAX BA Developer Training for Non-Developers
ESC Status Reports 3.j TSM ESC Status Report 05162017.docx
ESC Status Reports 3.k TSM ESC Status Report 05302017.docx
ESC Status Reports 3.l TSM ESC Status Report 06272017.docx
ESC Status Reports 3.m TSM ESC Status Report 07182017.docx
ESC Status Reports 3.n TSM ESC Status Report 08012017.docx
Fast Best and Final Offer (BAFO) to Hawaii RFP 13-013-SW dated 06/08/15
Fast Proposal Response to Hawaii RFP 13-013-SW updated 08/26/2014, p309-317, p348, p382-425
Hawaii DoTAX Business Process Reengineering Recommendations FINAL 12 May 2017.doc; version date 5/12/17
Hawaii State Department of Tax Contract with Fast Enterprises, effective 07/15/15
Hawaii State Department of Tax Supplemental Contract 1 with Fast Enterprises, effective 01/22/18
Hawaii State Department of Tax Supplemental Contract 2 with Fast Enterprises, effective 08/14/18
Hawaii State Department of Tax Supplemental Contract 3 with Fast Enterprises, effective 10/08/18
Hawaii State Legislative Budget Worksheet, EXEC-HB2-CD1-Worksheets
Hawaii State Procurement Office RFP 13-013-SW Modernizing The Department of Taxation's Technology
IVV Questionnaire_TSM GenTAX Development Questionnaire (DoTAX).docx
IVV Questionnaire_TSM GenTAX Development Questionnaire (Fast).docx
Knowledge Transfer Plan – R3.docx; version 1.03 dated 2/21/17; Joshua Lee, DoTAX, reviewed on 11/9/16 and 11/23/16, Del. #50, 51
Knowledge Transfer Tracking Document.xlsx; File last modified date 8/31/17 and was changed by Delena Bratton.
OCM & BPR OCM Approach for Hawaii R3.docx; File Last Modified 8/4/17
OCM & BPR OCM Transition Plan R3 – Conversion v1.doc; File Last Modified 6/1/17
OCM & BPR OCM Transition Plan R3 – eServices Implementation v1.doc; File Last Modified 8/1/17
OCM & BPR OCM Transition Plan R3 – External Communications v1.doc; File Last Modified 7/3/17
OCM & BPR OCM Transition Plan R3 – Instalment Taxes Implementation v1.doc; File Last Modified 7/26/17
OCM & BPR OCM Transition Plan R3 – Internal Communications v1.doc; File Last Modified 7/9/17
OCM & BPR OCM Transition Plan R3 – Miscellaneous Mail Tracking v1.doc; File Last Modified 6/1/17

Appendix B – TSM References and Documents Reviewed
OCM Plan Doc.docx; version .002 dated 1/28/16 Jenna Kovacs; not reviewed by DoTAX, reviewed by TSM Project Director Delena Bratton on 10/10/15
OCM Update – R3.docx; version 3.0 dated 12/11/17; Joshua Lee DoTAX PMO reviewed (no date) Del. #15,16,17,18,
Organizational Change Management Effectiveness Assessment – R2.docx Del. #16
Requirements Traceability Matrix Del# 9
Risk and Issue Log.xlsx; File last modified 11/24/17
Rollout 4 Training Statistics.docx; Accessed 12/19/18
SQR Migration – Change Control Report dated 04-Apr-2019
Tech Team Agenda that identifies the DoTAX (ITSO) Tiers/Assignments and Resources by Area (including primary and back-ups); this agenda also contains a resource visual diagram for TSM Applications and TSM Infrastructure
Training Gantt Schedule; Viewed on 3/29/19
Training Plan – R4.docx; version 1.01 dated 3/8/2018; No change or review log, no management approval. Del. #48,49,52,53,54,55
Training Plan – R5.docx; Accessed 3/18/18; version 1.01 dated 1/1/2019 Del. #48,49,52,53,54,55
TSM Production Support Work Flow (flow chart with no formal v-control or approvals noted)
TSM Project DRAFT Email to DoTAX Staff: Decommissioning ITPS dated 4/3/2019
TSM Project Next Steps (April – September 2019) Presentation (slide titles below), not dated • TSM Project Team Assignments for R5 and SQR Support • TSM SWOT Analysis • TSM Transition Planning Overview which covered the following areas: Infrastructure, Database, and Security; Application Development; Analysts; and Administration
TSM Project Situation Analysis dated July 2018
TSM SQR Lifetime Flow
TSM Weekly SQR Statistics Report dated 03-Apr-2019 for period 28-Mar-2019 through 04-Apr-2019

Appendix C – IV&V Assessment Methodology Sources

Team Accuity follows standards and best practices recognized both in the U.S. and internationally.

- **The Project Management Institute's (PMI®) Project Management Body of Knowledge (PMBOK, 6th Edition) –** The PMI is project management's leading global professional association and, as such, it administers a recognized, rigorous, and proven project management methodology. Team Accuity has incorported PMBOK's knowledge areas and process groups into our approach to assess and evaluate the project management processes and procedures in place on the TSM project.

- **The International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK, 3rd Edition) –** The IIBA is the leading global independent professional association serving the field of business analysis, supporting the recognition of the profession, and maintaining the standards for the ongoing development and the practice of business analysis knowledge areas. Team Accuity has incorported BABOK's knowledge areas and framework into our approach to assess and evaluate the business analysis processes and procedures in place on the TSM project.

- **The Institute of Electrical and Electronics Engineers, Inc. (IEEE) –** The IEEE was created to help advance global engineering processes and to foster technological innovation. Team Accuity applies IEEE standards to all Independent Verification and Validation efforts. Team Accuity has already incorporated critical guidelines and criteria from the many IEEE standards into our IV&V checklists and methods to apply directly to the TSM project. In particular for this project, Team Accuity utilized IEEE 1012-2016 Standard for System and Software Verification and Validation.

- **International Organization for Standarization (ISO) –** ISO is an independent, non-governmental international organization with a memberhsip of 163 national standards bodies. It brings together experts to share knowledge and develop voluntary consensus-based, market-relevant International Standards that support innovation and provide solutions to global challenges. Team Accuity has already incorporated critical guidelines and criteria from the many ISO standards into our IV&V checklists and methods to apply directly to the TSM project.

We also align our IV&V methodology to the following Project Management standards:

- **Standard project processes as defined by the Project Management Body of Knowledge (PMBOK) –** A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – 6th Edition reflects the collaboration and knowledge of working project managers and provides the fundamentals of project management as they apply to a wide range of projects. This internationally recognized standard gives project managers the essential tools to practice project management and deliver organizational results.

- **The phases as defined in the System Development Life Cycle (SDLC)** – A key to successful IT management is a solid project management methodology that incorporates the best government and commercial practices through a consistent and repeatable process, and provides a standard structure for planning, managing, and overseeing IT projects over their entire life cycle.

Team Accuity utilizes best practices for change management capabilities:

- **Prosci's Change Management ADKAR™ Model –** A global team of change advocates focused on customer success, Prosci combines scientific principles and a focus on the people side of change. They maintain the world's largest body of change management knowledge, and provide a goal-oriented change management model that guides individual and organization change. ADKAR – *awareness, desire, knowledge, ability, and reinforcement* – is an effective tool for addressing organizational change management activities.

Team Accuity utilizes best practices for software development standards:

- **SWEBOK® v3.0 Guide to the Software Engineering Body of Knowledge –** Is a guide established by the IEEE Computer Society for a body of knowledge for the field of software engineering. ISO/IEC/IEEE Systems and Software Engineering Vocabulary (SEVOCAB) defines software engineering as "the application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software; that is, the application of engineering to software. The Guide to the Software Engineering Body of Knowledge (SWEBOK Guide) was established with the following five objectives.
  - 1. To promote a consistent view of software engineering worldwide.
  - 2. To specify the scope of, and clarify the place of software engineering with respect to other disciplines such as computer science, project management, computer engineering, and mathematics.
  - 3. To characterize the contents of the software engineering discipline.
  - 4. To provide a topical access to the Software Engineering Body of Knowledge.
  - 5. To provide a foundation for curriculum development and for individual certification and licensing material.

Appendix D – IV&V Assessment Stoplight Legend

Team Accuity assessed the Project's Overall Health utilizing a "green-yellow-red stoplight" visual representation for each area.

G-Y-R Stoplight Legend	
	Satisfactory – Meets most industry standards. Few Recommendations.
	Cautionary – Partially meets most industry standards. Key Recommendations.
	Unsatisfactory – Does not meet most industry standards. Multiple Recommendations.

Comment Matrix for: State of Hawaii DoTAX Taxation Modernization System IV&V Project

Document Title:	**IV&V Periodic Assessment Report**
Comments Due By:	**5/17/2019**

Item	Section #	Page #	Comment/Issue/Concern	Team Accuity Response
1	5.1	6	Clarification requested. What does this mean: "… at least processes that *support the project management architecture* should be documented and maintained for the duration of the project life cycle." As we shift from "project" to "production support" mode, the management approach will change.	In the absence of formally maintained project plans, processes that are specific to project activities should be documented, even informally. Through the use of guides or instructional aides that identify how certain activities will be consistently appled, such as risk management procedures, testing procedures or the process for creating an SQR. As the project evolves, people, tools, and activities will evolve as well. Those changes that come with project maturity should be documented.
2	5.1.2	7	Clarification. The Intranet was introduced as an additional communication tool in January 2019. Other communication methods have continued (e.g., meetings, emails).	Updated the Findings in Section 5.1.2 to read: *"Team Accuity noted that the Project intranet site,* ***introduced in January 2019*** *,* ***has been updated twice*** *and does not appear to provide traffic statistics. Team Accuity noted it was updated on January 18, 2019 and March 11, 2019.* ***Although other communication methods have continue*** *d, if the intranet site becomes a primary communication tool ..."*
3	5.1.3	7	Clarification requested. The project team has been pretty consistent in documenting meetings. Where were there concerns?	Team Accuity could not locate consistent use of the Delivery Workbench for meeting agendas, minutes, attendees, and actions such as technical team meetings, developer meetings, and business analyst meetings. Team Accuity could also not find consistent documentention whereby risks and issues were identified within meetings or during a stand alone meeting.

Item	Section #	Page #	Comment/Issue/Concern	Team Accuity Response
4	5.1.4	7	RMS - Clarification. The SQR description provided in the "SQR Migration - Change Control Report" is prepared by the Analysts (not technical team member) and are generally in plain English. Additional information is available in the SQR. JD - Most managers have access to SQR and retrieve their own detail. SQR Summary and SQR Performance cubes available in production for reporting status.	The documentation provided did not appear to address the functionality delivered within the context of the business units. The report is a summary of the SQRs and describes the functionality of the change. This is still a technical description of the system changes. The business use of that change and the affect on an individual's functional application of the change does not seem to be addressed either in this report or any other materials Team Accuity reviewed.
5	5.1.5	7, 9	Clarification. The testing process is linked to development requirements, not requirements traceability or defect root cause analysis. It is unclear which testers need to be re-educated.	Although the Test Plan documentation specifies System Testing Exit Criteria that includes “Execution of all System Test scenarios with documented actual results”, the completed scenarios randomly sampled for R4 did NOT contain any actual results from the testing - only a Pass/Fail indicator. Additionally, the System Test Testing Scenario Template (Excel file) does NOT contain a column for Actual Results either. This appears to be a slight deviation to the plan, and what is trained and verified.
6	5.1.6	8	RMS - Clarification. Unfortunately, due to the nature of the requirements, most of the requirements cannot be signed off on until R5 is completed. JD - Requirements have been all thoroughly reviewed by FAST and descriptions and examples of how they have been addressed as been done (including screenshots). This is FAST's determination which I acknowledge is not "acceptance". FAST has used these requiremenents to drive definition in each Rollout which is the intent of documenting the requirements in the first place.	Team Accuity finds that all requirements should be signed off by the time testing is completed, just prior to go live for any release. The requirements that Team Accuity randomly sampled associated to Roll Outs 1-4 remained in status that indicated only partial sign off by the vendor and/or DoTAX. Requirements associated to Roll Outs currently in production should be approved in order to facilitate acceptance of the Roll Out.

Item	Section #	Page #	Comment/Issue/Concern	Team Accuity Response
7	5.1.4.a	8	Clarification. The majority of SQR requirements are identified by functional users (non-technical). Non-technical analysts draft the migration descriptions. We could require users to review the migration descriptions as part of User Acceptance Testing. See also Item 5.	Team Accuity agrees with mitigation strategy proposed by DoTAX. As this is the final report, Project Sponsors are responsible for any follow up to IV&V's recommendations.
8	5.1.1.a	10	Clarification. The Knowledge Transfer (KT) Plan was not updated after Rollout 3 because the DOTAX management at the time indicated that KT would take place during warranty. In order to facilitate Knowledge Transfer in Rollouts 4 and 5, development for changes and enhancements have been assigned to DOTAX technical teams.	Updated and restructured the Outcome section for 5.1.1.a to read (This passage appears first in the outcome.): ***"The Knowledge Transfer (KT) Plan was not updated after Rollout 3 as the DoTAX management at that time indicated that KT would take place during warranty. In order to facilitate Knowledge Transfer in Rollouts 4 and 5, development for changes and enhancements have been assigned to DoTAX technical teams."***
9	5.1.1.b	10	Clarification. The current change champions have been identified as the DOTAX Director and managers. This includes all managers, not just the project managers. Rollout 5 changes have been led by the Project Managers through the project teams (managers, analysts, subject matter experts).	Team Accuity was not able to verify that DoTAX Managers (not Project Managers) were aware that they are identified as change champions and understand the associated duties.
10	5.1.1.d	11	Clarification. The Rollout 5 taxpayer universe is about 2,000 taxpayers. This is very different from prior rollouts. Communications to taxpayers is being initiated through the license/permit renewal process. Additional communication will be deployed as we approach the cutover date.	Team Accuity was not granted access to the Public Information Officer and could not verify any additional communication activities, such as the license/permit renewal process with taxpayers. Team Accuity cannot verify communication not yet deployed or planned absent a Communication Plan.
11		14	There is a duplicate entry in Table 10.	The "duplicate entry", 5.2.1.b., was unfortunately produced with a white text color and didn't appear. That entry has been fixed.
12	5.2.2.a	14	Clarification. A Supplemental Contract (amendment) is being prepared, not explored. This must be done.	Updated the Outcome section for 5.2.2.a to read: *"**A Supplemental Contract (amendment) is being prepared** which…"*

Item	Section #	Page #	Comment/Issue/Concern	Team Accuity Response
13	5.4.4.b	21	See Item 9.	Team Accuity was not able to verify that DoTAX Managers (not Project Managers) were aware that they are identified as change champions and understand the associated duties.
14	5.4.5.a	21	Clarification. The TSM project office needs to be shut down by (not on) October 31. Our goal is to move into the DOTAX Punchbowl office ahead of this date.	Updated the Outcome section for 5.4.5.a to read: *"The current TSM Project office* ***will be shut down by October 31, 2019. All TSM Project staff, including the developers, will be co-located at the "Punchbowl" DoTAX office no later than November 1, 2019, if not sooner*** *. Communication will be disseminated to staff."*