Review of the Value Adjustment Board Petition Processing Software

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Office of the County Auditor
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EXECUTIVE SUMMARY

This report provides the results of our review of the Value Adjustment Board’s (VAB) software application (Axia) used to automate the administration of taxpayer petition filing and quasi-judicial hearings.

The VAB began using Axia to maintain records of petitions for the 2007 tax year. Accordingly, we reviewed Axia processing of 2007 petition data and Axia reports of 2007 VAB Activity, to

- Determine the integrity of the processes
- Identify controls and control weaknesses
- Verify the accuracy and completeness of data reported in the 2007 Tax Impact Notice (the “Notice”)

Our review identified deficiencies in the system design and automated controls over petition processing and weaknesses in Axia access security. Deficiencies noted are isolated to the VAB’s Axia system. Official records of property values are maintained separately and apart from the Axia system by the Property Appraiser’s Office (PAO). Findings are as follows:

Axia Design and Processing of VAB Petitions

1. The 2007 Tax Impact Notice automatically generated by Axia and published by the VAB does not reconcile with reports of VAB activity from the Property Appraiser’s system.

2. The VAB is dependent on the Axia vendor, Pioneer Technology Group (PTG), for generating the Tax Impact Notice.

3. Axia does not electronically integrate with Property Appraiser systems for automatic reconciliation of VAB activity. As a result, the reconciliation of petition data (33,256 petitions in the 2007 tax cycle) is manually intensive, inefficient and ineffective.

System Access Security and Controls

4. Axia access security is not configured to protect the integrity of VAB records of petition activity maintained in Axia.

To improve the effective use of Axia, attain efficiencies in petition processing, and ensure data integrity, we recommend the following:

- Perform a detailed review and reconciliation of 2007 petition data to identify and resolve differences between PAO and VAB data.
- Perform a comprehensive and thorough validation of the Axia software. Testing should be periodically re-performed, especially upon PTG modifications of the Axia software.
- Work with PTG to correct deficiencies in automated processing and determine the feasibility of adding auto-calculations and input control features to Axia.
- Obtain Axia programs and instructions for preparing and generating a Tax Impact Notice and ensure VAB staff are able to use Axia for its intended functions independent of PTG assistance.
- Determine the feasibility of developing automated verification and audit functionality in Axia, as set forth in the project Statement of Work.
- In the interim, continue to reconcile correction and adjustment data between Axia and the Property Appraiser’s records to ensure the VAB actions are accurately recorded.
- Determine the feasibility of periodically generating a ‘draft’ Tax Impact Notice to facilitate early identification of errors or irregularities in the data or processing.
- Increase the level of access security and controls over Axia.
- Establish mitigating controls such as continuous supervisory review and approval of routine and non-routine petition processing to identify trends and unusual activity, especially as pertains to vendor access, frequency of voids, and use of override functions.

**Objective, Scope, and Procedures**

Our objective was to evaluate Axia processes for capturing and reporting 2007 petition data to:

- Determine the integrity of the processes
- Identify controls and control weaknesses
- Verify the accuracy and completeness of data reported in the 2007 Tax Impact Notice (the “Notice”)

We evaluated automated and manual processes used in collecting data, processing petitions, and generating the 2007 Notice. We reviewed the effectiveness of controls over petition processing.

We gathered information regarding the VAB process and Axia processing through:

- Interviews with staff from the VAB and the Property Appraiser’s Office (PAO)
- Observations of Axia processing
- Analysis of petition data extracted from the Axia database
- Review and reconciliation of data extracts with Axia Reports

Although we reviewed the 2007 Impact Notice to verify the completeness and accuracy of Axia petition processing, our procedures were not designed to validate or certify the 2007 Notice.
PAO systems used to track actual corrections and adjustments to taxable values are separate from Axia and were not reviewed within the scope of this audit.

In the performance of our review, we referenced criteria from Control Objectives for Information and related Technology (COBIT) by the Information System Audit and Control Association (ISACA) and the IT Governance Institute (ITGI). COBIT provides generally applicable and accepted measures, indicators, processes and best practices to assist organizations in the sound use of information technology.

**BACKGROUND**

The 2007 Broward County Value Adjustment Board (“VAB”) is created by Section 194.015, Florida Statutes. Consisting of three members from the Broward County Commission and two members from the Broward County School Board, the VAB serves as the independent appeals board when there is disagreement between the taxpayer and Property Appraiser concerning property exemptions, classifications, and/or valuations. The VAB is responsible for the administration of the petition appeals processes and for recording and reporting on the results of VAB activity.

During the 2007 tax cycle, VAB staff were positioned within the County Records Division of the Finance and Administrative Services Department.

**The Value Adjustment Process**

In mid-August of each year, Truth in Millage Notices, which are proposed tax bills and are also referred to as ‘TRIM Notices’, are mailed to all Broward County taxpayers. Upon receipt of this notice, any taxpayer wishing to appeal the assessed value of his/her property as assigned by the Broward County Property Appraiser’s office may do so by contacting the Property Appraiser. If the Property Appraiser is not able to resolve the matter through an informal conference, the taxpayer has the option of filing a petition with the VAB within 25 days of the mailing of the TRIM notices.

Upon filing of a petition with the VAB, the taxpayer is again encouraged to arrange an appointment with the Property Appraiser to discuss the matter. If an appointment cannot be arranged or if the taxpayer and the Property Appraiser cannot resolve the matter, the VAB will schedule a hearing for the taxpayer before an Appraiser Special Magistrate.¹

All VAB hearings are quasi-judicial, and everyone appearing before the Special Magistrate is required, upon the request of either party, to testify under oath. It is the taxpayer’s responsibility to furnish information, documents, and/or evidence either before or at the hearing. In each case, except when a complaint is withdrawn by the petitioner or is

¹ The filing of a petition does not alter the taxpayer’s obligation to pay taxes when due.
acknowledged as correct by the property appraiser, the VAB shall render a written decision. The VAB clerk, upon issuance of the decisions, shall, on a form provided by the Florida Department of Revenue (DOR), notify by first-class mail each taxpayer, the property appraiser, and the department of the decision of the VAB.

The Property Appraiser’s staff perform daily audits of VAB activity and records with Property Appraiser official records of assessed values. All VAB decisions are reviewed by the Property Appraiser. The Property Appraiser is responsible for providing VAB corrections to the County’s Revenue Collection Division to correct the taxes based on the adjusted property valuation and process any applicable refunds.

After all petitions have been processed for the tax year, Florida Statutes require the VAB to disclose the tax impact of VAB actions in a public advertisement. To the extent the VAB adjusts assessed values of property, exemptions and/or classifications for use, the VAB must disclose information on the number of petitions filed and granted by the VAB, as well as amounts of reduction in taxable (assessed) value and loss in tax dollars. In addition, the VAB is required by Florida Statutes to certify the assessment roll.

The process outlined above was followed by the VAB for the 2007 tax cycle. The DOR has proposed certain changes to the VAB process and reporting requirements. Although the proposed changes have not been officially promulgated, the DOR strongly recommends adherence to the proposed rules for subsequent tax cycles.

Introduction of Axia Value Adjustment Board Software

Prior to Axia, the VAB used a simple database for recording taxpayer petitions. VAB staff accepted paper filings and paper petition evidence and manually coordinated the schedules and processes of the VAB from TRIM Notice to publishing of public notice of tax impact. As the volume of taxpayer petitions increased, so did the administrative burden on the VAB.

In June 2006, the County licensed Axia VAB software from Pioneer Technology Group (PTG) at a cost of $320,000. According to VAB staff, Axia is the first commercially available automated processing solution for VAB-related operations. The 2007 tax cycle was the first year of Axia use.

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2 Title XIV, TAXATION AND FINANCE s. 194.037, F.S., ADMINISTRATIVE AND JUDICIAL REVIEW OF PROPERTY TAXES Disclosure of tax impact. - (1) After hearing all petitions, complaints, appeals, and disputes, the clerk shall make public notice of the findings and results of the board in at least a quarter-page size advertisement of a standard size or tabloid size newspaper, and the headline shall be in a type no smaller than 18 point.

3 Section 193.122 (1), F.S., The value adjustment board shall certify each assessment roll upon order of the board of county commissioners pursuant to s. 197.323, F.S., if applicable, and again after all hearings required by s. 194.032, F.S., have been held. These certificates shall be attached to each roll as required by the Department of Revenue.
Axia replaced the County’s internally developed FileMaker Pro database with a fully integrated, web based suite of software with on and off-site, wired and wireless, intranet or internet access capability. Consultants from PTG custom configured and implemented Axia to automate the County’s VAB petition appeals processes.

Axia allows taxpayers to electronically file petitions, submit evidence and pay filing fees via the internet. Once registered as an Axia user, petitioners can also access hearing schedules and look-up petition status. VAB staff utilize Axia case management tools to manage petition records and related evidence; maintain hearing schedules; and report on VAB activity. The Axia database is the official record of taxpayer petitions to the Broward County VAB.

Enterprise Technology Services (ETS) resources assigned to the VAB are administrators of Axia software, the VAB computer servers and underlying database. PTG maintains Axia software, a service for which the County pays $32,500 annually. VAB and ETS staff report that PTG has been responsive to requests for assistance with Axia.

FINDINGS AND RECOMMENDATIONS

Findings and recommendations noted below are specific to VAB processing and the Axia system. Official records of property values are maintained separately and apart from the Axia system by the Property Appraiser’s Office.

Axia Design and Processing of VAB Petitions

1. The 2007 Tax Impact Notice automatically generated by Axia and published by the VAB does not reconcile with reports of VAB activity from the Property Appraiser’s system.

VAB data must reconcile with PAO records of adjustments to the tax roll, as the VAB is required by Florida Statutes to certify the assessment roll[^4].

In our review of Axia processing, we identified the following design and implementation deficiencies that contributed to the occurrence of data discrepancies and differences with PAO records of VAB activity:

- Axia does not provide input validation or reasonableness checks to automatically validate users’ manually keyed values. Nor does Axia restrict user input to a pre-approved list of acceptable values for certain petition data fields. In reviewing the data, we noted inconsistencies in the use of ‘0’, ‘NULL’, ‘n/a’ and blank values. These inconsistencies resulted in the omission of certain petitions in the published Notice. While these values are similar, the automated system handles each value differently. A

[^4]: ibid.
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data query to provide all petitions with a ‘0’ value will not capture and report petitions
with a ‘NULL’, ‘n/a’, or blank value. Since different values were used to indicate the
same condition, Axia queries did not provide accurate, consistent results.

- Axia does not auto-calculate the amount of the change in taxable value, as reported on
the Notice. Instead, VAB clerks manually calculate the difference between ‘before’ value
and the VAB granted adjustment and key the ‘after’ taxable value into the petition
record. In the absence of system input controls and automated formulas to calculate the
change in taxable value, the underlying data used to reconcile the impact of VAB activity
is subject to manual errors and inaccuracies. We found mathematical and keying errors
in petition values. For example, 1) an approved exemption was input as $25,080, instead
of the standard exemption of $25,000 and 2) the taxable value of a petitioner’s property
after VAB adjustment was input as $275,000, instead of $27,500.

- Test data input by PTG during testing and subsequent to implementation was not
removed when the tests were completed. Although fictitious data used to test and
validate Axia processing was found in Axia, these transactions were not reported in the
Impact Notice.

Prior to launching Axia for use, staff from PTG and the County (ETS and VAB) tested Axia
processing by reconciling Axia reports of 2006 VAB activity to legacy database reports of
2006 VAB activity. VAB staff report that the need to begin processing the 2007 tax cycle
accelerated the acceptance and launch of Axia prior to completion of testing. As a result of
incomplete testing, system deficiencies and processing errors were discovered during the
first year of use.

According to best practices\(^5\) for installing and acceptance of [IT] solutions and changes, new
systems require proper testing in a dedicated environment to assure that operational
systems are in line with the agreed-upon expectations and outcomes. Until Axia
functionality and processing is thoroughly and comprehensively evaluated, system
deficiencies may not be identified and corrected; data discrepancies will continue to occur.
Axia reports of VAB activity may not be accurate or complete.

**Recommendations**

To ensure the accuracy and completeness of Axia VAB petition processing, we recommend
that the Board direct the County Administrator to

1. Perform a detailed review and reconciliation of 2007 petition data to identify and
resolve differences between PAO and VAB data (immediately).

\(^5\) COBIT A17: Acquire and Implement [Software], Install and Accredit Solutions and Changes [to software].

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2. Perform a comprehensive and thorough validation of the Axia software. Testing should be periodically re-performed, especially upon PTG modifications of the Axia software (within 6 months and continuously thereafter).

3. Work with PTG to correct deficiencies in automated processing and determine the feasibility of adding auto-calculations and input control features to Axia (within 6 months).

2. The VAB is dependent on the Axia vendor, PTG, for generating the Tax Impact Notice.

After all petitions have been processed for the tax year, Florida Statutes\(^6\) require the VAB to disclose the tax impact of VAB actions in a public advertisement. To the extent the VAB adjusts assessed property values, exemptions and/or classifications for use, the VAB must disclose information on the number of petitions filed and granted by the VAB, as well as amounts of reduction in taxable (assessed) value and loss in tax dollars.

Axia includes a command to generate the Tax Impact Notice; however, since Axia does not auto-calculate or maintain the amount of taxable value reductions due to VAB actions or the related reduction in tax dollars, a Notice cannot be generated ad hoc. Before a Notice can be generated, the petition data in Axia must be cross-referenced to adjustment/correction data from the Revenue Collection system. To accomplish this, an Axia system administrator must run several programs (scripts) to 1) import Revenue Collection’s “corrections register”, 2) import PAO’s file of authorized correction/adjustment batches, and 3) cross-reference petition folio data in Axia to actual corrections/adjustments to the tax roll. Axia can report on the Reduction in Taxable Value due to VAB Activity and the related Loss in Tax Dollars only after the import and cross-referencing is completed.

For 2007 petition processing, staff from PTG, the vendor for Axia, ran the import and cross-reference programs. County staff were not provided the programs used by PTG to import files and generate the Notice; therefore, staff were unable to reproduce a Tax Impact Notice, independent of PTG assistance.

**Recommendation**

4. We recommend that the Board direct the County Administrator to obtain Axia scripts and instructions for preparing and generating a Tax Impact Notice and ensure VAB

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\(^6\) Title XIV, TAXATION AND FINANCE Section 194.037, F.S., ADMINISTRATIVE AND JUDICIAL REVIEW OF PROPERTY TAXES Disclosure of tax impact. - (1) After hearing all petitions, complaints, appeals, and disputes, the clerk shall make public notice of the findings and results of the board in at least a quarter-page size advertisement of a standard size or tabloid size newspaper, and the headline shall be in a type no smaller than 18 point.

\(^7\) As referenced in the Background section, the corrections register is a file generated by the Revenue Collection tax and license system. This file contains all corrections and changes to the tax roll, as authorized by the PAO.
staff are able to use Axia for its intended functions independent of PTG assistance (immediately).

3. **Axia does not electronically integrate with Property Appraiser systems for automatic reconciliation of VAB activity. As a result, the reconciliation of petition data is manually intensive, inefficient and ineffective.**

PAO staff are heavily involved in the processes surrounding petitions for value adjustments and exemptions. Appraisal staff work to resolve petitions prior to VAB hearings both before and after certifying the taxable values for the County. For 2007, the PAO resolved 12,600 out of 33,256 (37.9%) petitions prior to VAB hearing.

Business requirements set forth in the Statement of Work required Axia to “tightly integrate with the Property Appraiser's database to verify and audit data.” However, Axia is not integrated with PAO systems and data is not automatically reconciled or audited. VAB staff reported that the PAO’s system of tracking adjustments was not online at the time of Axia acceptance. The cost of this functionality was not separated from the total cost of the Axia software license. Final acceptance was not conditioned upon completion of this unmet requirement.

In lieu of automated reconciliation, PAO staff perform weekly reconciliations between Axia reports of resolved petitions and PAO records of VAB activity. The PAO also reconciles corrections and adjustments posted by the County’s Revenue Collection Division with PAO records of VAB activity. PAO staff work with VAB staff to manually review, detect and resolve data discrepancies. In the absence of electronic comparison and validation tools, the VAB relies on PAO assistance in reconciling Axia petition processing. However, data discrepancies noted in Finding 1 indicate that manual reconciliation controls have failed to detect errors in the Axia data.

**Recommendation**

To increase the efficiency and effectiveness of reconciliation efforts, we recommend the Board direct the County Administrator to:

5. Determine the feasibility of developing automated verification and audit functionality in Axia, as set forth in the project Statement of Work (*within 6 months*).

6. In the interim, continue to reconcile correction and adjustment data between Axia and the Property Appraiser’s records to ensure the VAB actions are accurately recorded (*immediately and continually*).

7. Determine the feasibility of periodically generating a ‘draft’ Tax Impact Notice to facilitate early identification of errors or irregularities in the data or processing (*within 3 months*).
Axia Access Security and Controls

4. **Axia access security is not configured to protect the integrity of the Axia system and VAB records of petition activity.**

Restricting access to data and systems is a fundamental control for protecting system and data integrity. Axia features include role-based security to control user access. This feature allows the site to custom-define ‘roles’ which represent the various positions and functions of staff. A role is granted or restricted access to system components based on position responsibilities. Individual users are then assigned to a role and governed by the restrictions or permissions granted to that role. The most privileged and powerful role is that of ‘Administrator’, which has unrestricted access within Axia and to petition data in Axia.

To determine whether access security was adequately configured to protect data and system integrity, we reviewed Axia security settings, role-based permissions, and user access assignments to roles.

We found instances of non-compliance with COBIT best practices for access security and controls, which exposes the system, data and programs to greater risk of unauthorized use, disclosure or modification, damage or loss.

- **System privileges should provide users only with the access necessary to perform job functions, but be restricted to ensure appropriate segregation of duties.** In Axia, the Supervisor role was defined with privileges similar to the Administrator role. Like the Administrator, a Supervisor can modify tables, set user permissions and view audit records. As a result of security weaknesses, in our preliminary review of petition data, we found four (4) instances where VAB staff had inadvertently changed petition numbers, outside of the auto-numbering function. While Axia administrators were able to reference audit trails and identify the staff who changed the petition numbers, the errors could have been prevented with tighter access controls.

- **Administrator accounts should be limited to appropriate VAB and ETS staff.** To establish and maintain accountability for administrators, individual users should be assigned to the administrator role. Administrator accounts should not be shared. There were 18 active Administrator accounts, which included
  - 2 PTG (vendor) accounts
  - 3 PAO staff accounts
  - 13 VAB database administrators and staff accounts

- **While Vendor administrator access to systems and data is acceptable during implementation, vendor access privileges to production data is not usually necessary or desirable after the system is up and running.** Vendor access is only acceptable in a test/development environment to permit support of the application subsequent to implementation. Removal of vendor access to production systems and data ensures
only authorized employee users can affect system data and processing. At the time of our review, PTG had 4 active accounts in total, including administrator access to the live Axia system and data.

- Axia user accounts should be assigned to named users, to create accountability for system activity. We found 14 active user accounts not specifically assigned to a named user.

- The capability to circumvent programmed workflows, such as the ability to void or adjust transactions, should be restricted to supervisors and subject to monitoring. Upon review of user access permissions, we determined that all VAB staff and vendor users have system access to void a petition. In the absence of access restrictions on void privileges and supervisory monitoring of void activity, a petition may be voided without proper cause or explanation for the action. Once a petition is voided, there is no further consideration of the matter by the VAB. In our review of preliminary data, we found 8 petitions voided by the vendor as duplicate 'Transactions from Credit Card Errors.' Although the reasons for the void may have been appropriate, VAB staff were not aware of the vendor voids.

Staff reported that while Axia provides security features, PTG did not provide assistance during implementation to setup and logically restrict role-based access consistent with VAB position responsibilities.

**Recommendations**

To ensure access security is adequately configured to protect data and system integrity, we recommend the Board direct the County Administrator to

8. Increase the level of logical access controls over Axia *(within 6 months)* by:
   - Establishing user roles aligned with Broward County's VAB staff responsibilities.
   - Revoking PTG access to the production Axia environment.
   - Ensuring users are assigned individual accounts and held accountable for activity on the system.
   - Restrict users' ability to circumvent programmed workflows, such as void and adjustment privileges, to appropriate VAB supervisors.

9. Establish mitigating controls, including:
   - Reporting on non-routine transactions, such as voids, adjustments to petitions subsequent to VAB finding of fact, and changes in petition numbering *(within 6 months)*.
   - Continuous supervisory review and approval of non-routine petition processing to identify trends and unusual activity, especially as pertains to vendor access, frequency of voids, and use of override functions *(within 6 months)*.