

Computer Controls Summary

Audit Sub Committee
Sachem Central School District

Presented by:

Matt De Meo
Director of Information Systems
October 20, 2009

The Management Letter from R. S. Abrams dated September 25, 2009 indicates computer controls, specifically permissions, as an area in need of improvement.

The following items are noted:

- The Technology director has full access to the accounting software and underlying source code
- An audit trail cannot be printed for review by an administrator

Under the Personnel section:

- Various employees within the District use sign-in sheets to record their daily absences.

Under the Purchasing and Expenditure section:

- The District has computerized the purchase order procedure, but the purchase orders are not integrated into the Pentamation program.

Following are considerations for corrective actions:

- *The Technology director has full access to the accounting software and underlying source code*

The Director of Information Systems (not the Technology Director) along with the Information Systems (I.S.) staff have full access to the entire Pentamation system. This enables the I.S. staff to diagnose and troubleshoot both technical and data issues; perform complex data extraction to meet reporting requirements and update large amount of information programmatically, saving significant amount of clerical labor hours.

To offer a couple of examples, a spreadsheet has been developed which, when populated with data from the I.S. staff via a data extract, projects variances in contractual salary balances to ensure that all employees are being paid correctly.

As another example, the district processes a bi-weekly payroll cycle. A result of this is, during some months of the school year, there are three payrolls. Some of our deductions should not be taken during the third payroll cycle of the month. In order to prevent taking excess deductions from employee records, the I.S. staff will perform a programmatic update on all deductions records which would be impacted to prevent the deduction from being withheld during that pay cycle. This update affects approximately 2400 employee records. If performed manually by the payroll staff, these updates would consume approximately 27 man hours, figuring 45 seconds of uninterrupted time for each change. The I.S. staff can update the same records in less than 30 seconds.

It is critical to note that the I.S. staff will never update the original source code in the system. First, it is a legal violation of our software agreement with Pentamation. Secondly, it would void the support provided by Pentamation. It also needs to be recognized that the Director supports 200 users of the financial system, which would not be feasible without the current access.

Resolution:

Restricting the access of the I.S. staff would be a detriment to the functions that the staff performs, impacting the job performance of the administrative and clerical staff and ultimately negatively impacting the taxpayers through increased costs. Although the access cannot be restricted, the district will be implementing software auditing services with the financial upgrade to be released in January 2010 (details to follow in the next section), which will allow for auditing of the I.S. staff.

- *An audit trail cannot be printed for review by an administrator*

From a typical user's perspective, actions are recorded via an audit trail which is incorporated directly in the software. However, as indicated above, the I.S. staff has direct access to the system. As a result, updates performed programmatically are not recorded. (Note that in both cases, ad-hoc report generation output is never logged).

The existing Pentamation system runs in a UNIX operating system on a Digital Aloha server. The auditing capabilities under our existing infrastructure are limited.

Resolution:

The District will be implementing an updated version of the Pentamation Financial System in January 2010. This version is similar in functionality to the existing software, but runs on a Windows SQL Server platform versus the Digital UNIX platform of the current system.

Using a Windows platform offers the ability to implement SQL Auditing Services. Excerpted from Microsoft's website...

The tool of choice for detailed activity audits, however, was SQL Trace. SQL Trace is a mechanism for monitoring a broad range of events internal to the SQL Server database engine. It is used for detecting deadlocks, monitoring application performance, debugging, and many other development or administrative purposes. It is useful as an audit tool because it can capture individual statements as they are executed, including the user id.

Resolution:

The Windows SQL platform will allow for the generation of an audit report which will be forwarded to the Associate Superintendent on a monthly basis along with the security audit report, which logs all changes to a user's access.

The Director of Information Systems along with the Associate Superintendent and John Luke from R.S. Abrams participated in a conference call with the engineering staff at Pentamation to begin the process of implementing Auditing Services. It is being proposed that the district retain the services of a software auditing firm to correctly structure Auditing Services. The list of vendors from the New York State Procurement Group is currently under review. We will interview a number of these vendors to ascertain if their services meet our needs.

Following are other security issues which will be addressed:

Users are not forced to periodically change their passwords

In our current configuration under the current UNIX platform, the system cannot force users to periodically change their passwords. In a windows environment, a 'group policy' can be created which will force the users to periodically change their passwords, along with enforcing password constraints (such as length, containing numbers and letters, etc).

Resolution

This needs to be accomplished at the network level. The Director of Information Systems will work in conjunction with the Administrative Assistant for Technology to institute a group policy to force password changes.

Remote access needs to be monitored

A select group of users now have remote access to their computers and ultimately, the Pentamation system. This access is available through a VPN (Virtual Private Network). The establishment of a VPN connection through our network can be monitored at the network level. Once access is gained to the desktop, a connection to Pentamation can be established. Once the user access the Pentamation system, all changes will be recorded through the software.

Resolution

This needs to be accomplished at the network level. The Director of Information Systems will work in conjunction with the Administrative Assistant for Technology to implement procedures to monitor remote access.

Various employees within the District use sign-in sheets to record their daily absences.

The district is in the preliminary stages of exploring options to track time and attendance. We have met with ADP and NovaTime to share with them our objectives. Both will provide us with an initial proposal.

The District has computerized the purchase order procedure, but the purchase orders are not integrated into the Pentamation program.

All purchases orders are entered into the Pentamation Program in the Accounts Payable department. I believe that this note refers to the level of detail on the purchase order and electronic approvals.

Resolution:

More input needs to be provided to fully comprehend the issue. The district has looked at an 'on-line' purchase order system. More so than the software having limitations, there are functional issues which are obstacles, such as not having a central purchasing department or central receiving. Once specific objectives have been cited, the district can explore the possibilities.

In summary, I have seen a considerable number of improvements in the business function of the school district. Many of these have come from the value provided by the I.S. staff. The current systems meet our needs, although they may not be on the cutting edge of technology. There are other system on the market which may provides us with a greater range of functionality and accountability, but they come at a cost. This cost is not only monetary, but in additional staff need to support the systems.