
Harris County Auditor's Office



Memorandum

To: Lina Hidalgo, County Judge
Rodney Ellis, Commissioner Precinct 1
Adrian Garcia, Commissioner Precinct 2
Steve Radack, Commissioner Precinct 3
R. Jack Cagle, Commissioner Precinct 4
DeWight Dopslauf, Purchasing Agent
Bruce High, Chief Information Officer
Vince Ryan, County Attorney

From: Mike Post, Harris County Auditor *MP*
Errika Perkins, Chief Assistant County Auditor - Audit Division *EP*

CC: Joe Madden, County Judge's Office
Brandon Dudley, Precinct 1
Mike Lykes, Precinct 2
Conrad Joe, Precinct 3
Cheryl Guenther, Precinct 4
Robert Soard, County Attorney's Office

RE: Computer Aided Dispatch and Records Management System (CAD/RMS) Consulting Engagement

Date: May 7, 2020

At the request of Commissioners Court on January 7, 2020, Audit Services performed a review of the Computer Aided Dispatch and Records Management System (CAD/RMS) for the period August 23, 2016 to March 12, 2020. The objectives of the engagement were to:

- Determine whether invoiced amounts agree with the contract milestone values.
- Evaluate the selection committee's process for selecting the vendor.
- Obtain an understanding of the functionality of the CAD/RMS.

Overview

On March 9, 2010, the Law Enforcement Technology Committee (the Committee) was created under the approval of the Harris County (County) Commissioners Court. The Committee was designated as the supervisory body responsible for the management and oversight of all integrated enterprise-wide Law Enforcement systems and standards. The Committee consists of one representative (executive leadership) from each of the following agencies: the Sheriff's Office, the eight Constables, the District Attorney's Office, Fire Marshal, and the Institute of Forensic Sciences. Three co-chairs are selected from different user

agencies, voted on by the full committee. In addition, the County Attorney, Universal Services (US) and outside Law Enforcement Agencies are also invited to attend Committee meetings. Committee meetings are held twice a year or as often as deemed necessary.

The Harris County Law Enforcement Technical Sub-Committee (the Technology Sub-Committee) consists of one or two representatives from each of the following agencies: the Sheriff's Office, the eight Constables, the District Attorney's Office, and the Fire Marshal. The Technology Sub-Committee selects two Co-Chairs. Technology Sub-Committee meetings are held once a month.

On August 23, 2016, the County awarded SunGard Public Sector, LLC (SunGard) a contract to provide a CAD/RMS, including but not limited to all software, modules, regionalization, system integration, data migration, project management, interfaces, technical services, web-based access and "local" based SunGard staff to be embedded within the County. After the award, SunGard Public Sector LLC rebranded to Superior, LLC (Superion) in 2017. In 2018 a merger between Apteon Public Sector, Superior, TriTech (Tiburon) along with Zuercher, formed CentralSquare Technologies (CentralSquare).

The County entered into an agreement with Banc of America Public Capital Corporation for financing in the amount of \$8,372,906 for the software lease/purchase. US requested the 4th installment payment of \$1,723,763.66 of the five-year agreement on December 31, 2019. The remaining balance is \$1,723,763.67 due on January 15, 2021.

Observations

Objective: Determine whether invoiced amounts agree with the contract milestone values.

1. Audit Services reconciled amounts invoiced by CentralSquare to service and software payment milestones set forth in the agreement. Audit Services was able to account for all milestone payments made or invoices associated within the agreement.
2. During our procedures, we were informed of two invoices, totaling \$794,164, currently being held due to the product not meeting all specifications within the agreement. The Proof of Delivery Form for the upgrade of the production environment to Version 19.1 has not been accepted and signed by project management. The signing of the Proof of Delivery Form would acknowledge that the vendor delivered the product and that there were no outstanding issues.

Not including the \$794,164 for the two invoices currently being held, the County has paid \$8,318,453 towards the CAD/RMS project. The life-to-date total expense of the project is \$9,112,617.

See Appendix A for detail of CAD/RMS Milestone and Maintenance Disbursements.

Objective: Evaluate the selection committee’s process for selecting the vendor.

1. The Committee does not have a formal Charter and Bylaws in place. A Charter “Draft” dated May 8, 2013 is posted on the Committee’s website. Technology Sub-Committee Rules and a Technology Sub-Committee Proposal Submission Flowchart are also posted on the website. However, there is no indication that these documents were formally approved and adopted by the Committee.
2. It was noted that both the Committee and the Technology Sub-Committee meeting minutes have not been consistently documented since the establishment of the Committee in March 2010. It was also noted that the documented approval of meeting minutes could not be provided.
3. Forty-one (41) Proposal Evaluation Team members including Technology Sub-Committee members, US, and outside Law Enforcement Agencies, were nominated to evaluate all CAD/RMS vendor proposals based on the relative importance of factors as set forth in the Request for Proposal (RFP) and to conduct negotiations as applicable giving fair and equal treatment to all offers. A total of five proposals were evaluated by the Proposal Evaluation Team. **See Appendix B** for a breakdown of the Proposal Evaluation Team Members.

Additionally, based on interviews conducted, there were a total of 11 official votes by the Technology Sub-Committee (1 vote per County Law Enforcement agency including the Fire Marshal and the District Attorney’s Office) for the selection of the vendor/system. Supporting documentation signed by the Technology Sub-Committee demonstrating their final selection could not be provided by the Purchasing Agent’s Office. However, per verbal validation with current Technology Sub-Committee members and Proposal Evaluation Team Members, the vote was unanimous for the SunGard (currently CentralSquare) product. It was noted that the Sheriff’s Office Technology Sub-Committee member drafted the Recommendation Letter that was submitted to the Committee. **See Appendix C.** With the evaluation by the Proposal Evaluation Team and the Technology Sub-Committee’s unanimous vote for the SunGard product, the proposal was submitted to Commissioners Court for consideration and approval on August 23, 2016. **See Appendix D** for listing of Committee Co-Chairs and Technology Sub-Committee members.

4. Confidentiality Forms signed by 11 of the 15 Technology Sub-Committee members were provided by the Purchasing Agent’s Office. The remaining 4 were not provided, therefore it could not be determined if all members that participated in the evaluation/selection process had signed Confidentiality Forms.

The Confidentiality Form includes an attestation statement regarding the Harris County Purchasing Code of Ethics, which outlines the Conflict of Interest requirements. Conflict of Interest Disclosures were also noted within the RFP as part of the General Requirements and Special Requirements/Instructions for vendors submitting a bid.

Objective: Obtain an understanding of the functionality of the CAD/RMS.

1. HTML5 is the latest version of Hypertext Markup Language, the code that describes web pages. By migrating CentralSquare to HTML5, it would allow the application to be accessed via the web. It is currently deployed by being locally installed on each law enforcement workstation. Migrating

to HTML5 would allow system updates to be rolled out to all users immediately and enable information in a citation report to be updated in real-time for all applicable users. HTML5 would also allow deputies to enter reports directly in RMS. Currently, the process for a report to be transferred from CAD to RMS takes approximately 30 minutes, not accounting for delays due to human error. Documentation finalization and approvals occur in RMS.

Throughout the vendor demonstration and per the RFP contract documentation, the vendor stated that the HTML5 technology would be implemented for the County's CAD/RMS system. This has not occurred to date, resulting in the product that was developed not matching with the County's initial requirements. As a result of the HTML5 technology not being implemented, operational inefficiencies occur due to mobile updates (referred to as "mupdates" in the system) taking longer to be implemented, the information in the database being slower to synchronize, and the inability for real-time reporting, both locally and regionally.

2. As we interviewed officers and personnel from across County Law Enforcement Agencies, it was clear that a number of users believe the system does not provide the functionality they seek. However, there were a number of users who expressed positive feedback regarding the system's functionality.
3. From the CentralSquare CAD/RMS application Go-Live date of 8/21/2018 to 3/5/2020, the average stop duration time was 13:08 minutes, the average time to complete a citation was 4:41 minutes and the average time to complete a warning was 3:43, **see Appendix E**.

In the previous Tiburon system, the average stop duration time was unable to be obtained. However, from January 2016 to August 2018, the average time to complete a traffic stop citation was 12.4 minutes and 8.6 minutes to complete a warning.

4. From the CentralSquare CAD/RMS application Go-Live date of 8/21/2018 to 3/5/2020, there have been 10 hotfixes (software updates performed by CentralSquare at the server level on the application itself) and 22 mupdates (a package of software updates specifically for mobile computers running the mobile software). Additionally, there have been 15 partial outages and 1 full outage (where the system is down and inoperable), **see Appendix F**.
5. From 8/21/2018 to 2/20/2020, 625 support tickets were submitted and closed by CentralSquare. As of 2/19/2020, 79 support tickets were still pending resolution from CentralSquare.
6. The more comprehensive National Incident Based Reporting System (NIBRS) was adopted with the implementation of the current CAD/RMS. Incident based reporting requires a greater amount of detail than the less complex Summary Reporting System (SRS) that was utilized with the Tiburon system. It was also noted that the Sheriff's Office became a NIBRS certified agency with the Department of Public Safety (DPS) effective February 2020 (less than 4% reporting error rate).

Recommendations

1. The Technology Sub-Committee should, with the help of the County Attorney, continue to pursue CentralSquare for the implementation of HTML5. Regardless of the fulfillment of the HTML5 functionality, the Technology Sub-Committee should determine if the current CAD/RMS product meets the current needs of the County or if other more effective/efficient systems exist.
2. US and members of the Technology Sub-Committee should revisit each of the County's law enforcement agencies, including the Criminal Investigations Bureau, to understand the potential issues of the CAD/RMS product in the field from the personnel who use the application extensively. This could help provide immediate training opportunities in the field, or support tickets could be generated on behalf of these end users for actual system problems that would be witnessed by both the end user and US in real-time. Training opportunities that are learned from this exercise should be incorporated into a centralized training program.
3. Although a "Draft" of the Charter exists, the Committee should formally document and adopt a Charter & Bylaws. It should be documented in this process that all Committee and Technology Sub-Committee meeting minutes will be documented and approved for all meetings held.
4. The Purchasing Agent's Office should require and maintain supporting documentation demonstrating the final selection made by each of the voting members when a selection committee is utilized.

In addition, the Purchasing Agent's Office should require all Committee/Sub-Committee members to sign Confidentiality Forms as part of the vendor selection process and implement procedures to allow only individuals who have signed the Confidentiality Forms to participate in the evaluation/selection process.

5. US, in coordination with the Committee, should update Commissioners Court periodically regarding the CAD/RMS project status. This update should occur until final project completion and acceptance has occurred. In addition, for information technology projects approved by Commissioners Court, a project management plan demonstrating each project's stage of completion and spend-to-date should be submitted to Commissioners Court on a periodic basis by US. A project management plan would allow Commissioners Court to be informed of the progress of information technology projects impacting the County.

Audit Services will perform follow-up procedures for each of the recommendations listed above and report the progress to Commissioners Court.

Appendix A

CAD/RMS Milestone and Maintenance Disbursements

Service Milestone:	Disbursement Amount	Payment Status
Contractual Execution - Performance Bond	\$ 58,045.00	Paid
Completion of Workflow Discovery	397,082.00	Paid
Delivery of Mutually Agreed Project Plan	397,082.00	Paid
Completion of CAD System Build	595,623.00	Paid
Completion of CAD User Training	595,623.00	Paid
Mock Go-Live	595,623.00	Paid
Completion of Requirements Verification Plan* for System Integration	595,623.00	Paid
Additional Maintenance & Go-Live Support	448,478.02	Paid
Total Service Milestones Disbursements	\$ 3,683,179.02	
Traveling & Living Expenses	\$ 279,866.86	Paid
Grand Total - Service Disbursements	\$ 3,963,045.88	
Software Milestone:		
10 Month Software Fees	\$ 1,899,500.00	Paid
35% Product Requirements Verification Plan*	1,329,650.00	Paid
15% 30 Days After Go-Live	569,850.00	Paid
Visio License	556,407.50	Paid
Grand Total Software Disbursements	\$ 4,355,407.50	
Total Project Disbursements To Date	\$ 8,318,453.38	
Milestone Invoices Currently Being Held		
Go-Live Completion Milestone	\$ 397,082.00	Held
30 days Past Go-Live	397,082.00	Held
Total Milestone Invoices Currently Being Held	\$ 794,164.00	
Total Project - Life To Date	\$ 9,112,617.38	

* Requirements verification plan is used by US, in coordination with CentralSquare, to assess the readiness of the CAD/RMS prior to conducting full end-user training and proceeding with the system in a production environment.

Appendix B

Department/Agency	# of Proposal Evaluation Team Members	Notes
HC Sheriff's Office	9	Includes 2 Technology Sub-Committee Members
US	14	
HC Constable Precinct 1	2	Includes Technology Sub-Committee Co-Chair
HC Constable Precinct 2	2	Includes 1 Technology Sub-Committee Member
HC Constable Precinct 3	1	Technology Sub-Committee Member
HC Constable Precinct 4	1	Technology Sub-Committee Member
HC Constable Precinct 5	2	Includes 1 Technology Sub-Committee Member
HC Constable Precinct 6	0	No confidentiality form was provided.
HC Constable Precinct 7	1	Technology Sub-Committee Member
HC Constable Precinct 8	2	Includes 1 Technology Sub-Committee Member
HC District Attorney	1	Technology Sub-Committee Member
HC Fire Marshal	1	Technology Sub-Committee Member
League City Police Department	2	
Pasadena Police Department	3	

Note: Proposal Evaluation Team Members were composed of Technology Sub-Committee members, US, and outside Law Enforcement Agencies

Appendix C

To: Harris County Law Enforcement Technology Executive Committee
From: CAD/RMS Selection Team
Date: April 11, 2016
Re: Selection – Sungard Public Sector

A Selection Team comprised of all Harris County funded law enforcement agencies, Central Technology Services and the Purchasing Department was convened to research and evaluate new Computer Aided Dispatch & Report Management Systems (CAD/RMS). An RFP was published and Harris County received six (6) responses from the following vendors: Sungard Public Sector, Tyler Technologies, Motorola, Hexagon Safety & Infrastructure, Tritech Software Systems and Niche Technologies. The Selection Team assessed the responses and determined a more thorough appraisal of Sungard Public Sector and Tyler Technologies was needed.

Tuesday March 29, 2016 – Wednesday March 30, 2016, the Selection Team met with representatives from Sungard Public Sector who demonstrated their software solution. Thursday April 7, 2016 – Friday April 8, 2016, Tyler Technologies was afforded the same opportunity. During the demonstrations technological, operational, workflow and project management questions were posed and answers were provided.

After the demonstrations a consensus vote was held and Sungard Public Sector was selected as the best option. In addition to the basic CAD/RMS functions the Sungard Public Sector offered numerous strategic advantages including the following items:

- 35 Customers within 50 miles of Harris County
- Enhanced interoperability
 - CAD to CAD – transfer calls between agencies
 - Switch to Switch – share data from one mobile user to another mobile user from a different agency
 - Police to Police – communicate information in the software between agencies who are also Sungard users
 - Police to Citizen – citizens can communicate with the agency through a web based portal
- Extensive data analytics capabilities
- CAD Unit recommendation status based on geography and unit capability
- 911 NextGen ready
- Mobile hardware can be 2-factor authentication; in compliance with Criminal Justice Information Standards
- Dual reporting capability - Uniform Crime Reporting (UCR) and National Incident Based Reporting System (NIBRS)
- Leverage Active Directory for single sign-on
- Advanced investigative case management capabilities
- Messaging from CAD to RMS and vice versa

Tyler Technologies software solution was found to contain operational gaps, an antiquated interface and deficient data analytic module.

The Selection Team is confident that Sungard Public Sector Software Solution is capable and prepared to move Harris County Law Enforcement into a more seamless, efficient and effective public server entity and wholly recommends Sungard be awarded the CAD/RMS contract.

Appendix D

Committee Co-Chairs (in 2016)

Ron Hickman, Sheriff, HCSO
 Alan Rosen, Constable Precinct 1
 Ted Heap, Constable Precinct 5

Departments/Agencies	Technology Sub-Committee Members (in 2016)
HC Sheriff's Office	Kevin Scruggs, Major (Co-Chair)
HC Sheriff's Office	Kathi Yost, Director of Communications
HC Constable Precinct 1	Chris Gore, Assistant Chief (Co-Chair)
HC Constable Precinct 2	Jorge Mendoza, Communications Supervisor
HC Constable Precinct 2	Blanca Martinez, Sergeant
HC Constable Precinct 3	Michael Cross, Lieutenant
HC Constable Precinct 4	Chris Nicholson, Captain
HC Constable Precinct 4	Harold Herrin, Captain
HC Constable Precinct 5	Scott Forbes, Lieutenant
HC Constable Precinct 6	Jeffrey Rosenthal, Lieutenant
HC Constable Precinct 6	Michael Calvillo, Technical Liaison
HC Constable Precinct 7	Peter Basralian, Sergeant
HC Constable Precinct 8	Jason Finnen, Chief
HC District Attorney	Kevin Sowell, Technology Manager
HC Fire Marshal	Scott Schoonover, Captain

Note: Appendix B represents Committee Co-Chairs and Technology Sub-Committee Members at the time the CAD/RMS product was selected. Although some agencies have two Technology Sub-Committee Members, each agency had one vote.

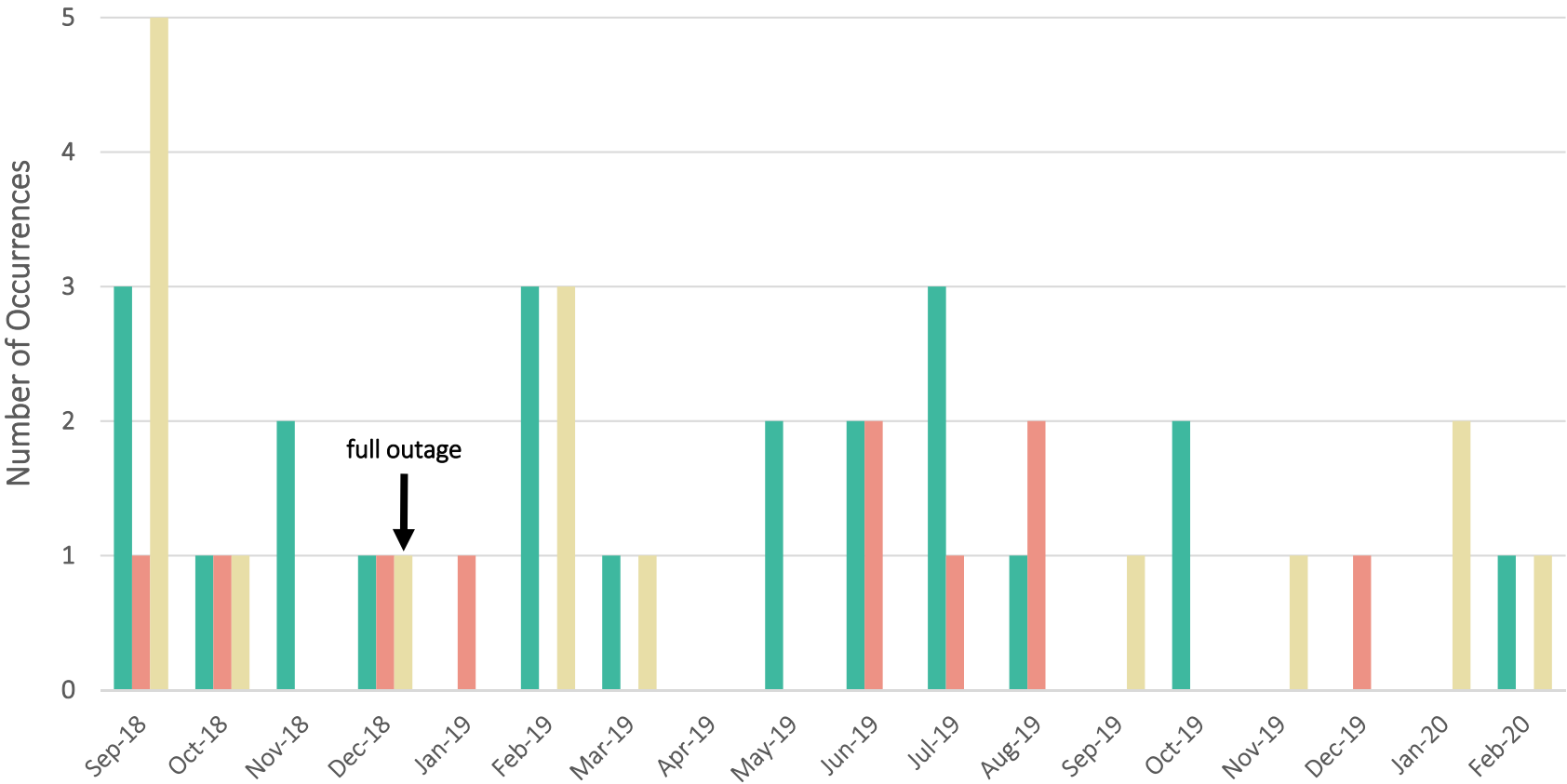
Appendix E

The chart presented below was provided by US to depict duration metrics in the CentralSquare CAD/RMS application. The average stop duration, the average citation duration (4:41) and an average warning duration (3:43) for a traffic stop from the Go-Live date of 8/21/2018 to 3/5/2020 across all agencies. It was noted that the more comprehensive National Incident Based Reporting System (NIBRS) was required and adopted with the implementation of the current CAD/RMS.



Appendix F

Monthly Occurrences of Mobile Updates, Hot Fixes and Partial/Full Outages



	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
Mupdate	3	1	2	1	0	3	1	0	2	2	3	1	0	2	0	0	0	1
Hotfix	1	1	0	1	1	0	0	0	0	2	1	2	0	0	0	1	0	0
Outages	5	1	0	1	0	3	1	0	0	0	0	0	1	0	1	0	2	1

Note: A partial outage is when a portion of the system is down but the other system components are still working. A full outage is when the entire system is inoperable.