



CITY OF
HAYWARD
HEART OF THE BAY

**COUNCIL TECHNOLOGY
APPLICATION COMMITTEE
OCTOBER 15, 2014**

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**CITY COUNCIL TECHNOLOGY APPLICATION COMMITTEE SPECIAL MEETING
WEDNESDAY, OCTOBER 15, 2014
CONFERENCE ROOM 4A 4:30 P.M. – 5:30 P.M.**

CALL TO ORDER

ROLL CALL

PUBLIC COMMENTS: *(The Public Comment section provides an opportunity to address the City Council Committee on items not listed on the agenda. The Committee welcomes your comments and requests that speakers present their remarks in a respectful manner, within established time limits, and focus on issues which directly affect the City or are within the jurisdiction of the City. As the Committee is prohibited by State law from discussing items not listed on the agenda, your item will be taken under consideration and may be referred to staff.)*

1. Approval of Minutes of September 17, 2014
[Minutes](#)
2. Update on Fire Connectivity: Issues, Resolution, and Timeline
[Staff Report](#)
[Attachment I](#)

COMMITTEE MEMBER ANNOUNCEMENTS AND REFERRALS

ADJOURNMENT

NEXT REGULAR MEETING – NOVEMBER 19, 2014

****Materials related to an item on the agenda submitted to the Council after distribution of the agenda packet are available for public inspection in the City Clerk's Office, City Hall, 777 B Street, 4th Floor, Hayward, during normal business hours. An online version of this agenda and staff reports are available on the City's website.****

Assistance will be provided to those requiring accommodations for disabilities in compliance with the Americans Disabilities Act of 1990. Interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the Assistant City Manager at (510) 583-4300 or TDD (510) 247-3340.

HAYWARD CITY COUNCIL, 777 B STREET, HAYWARD, CA 94541
[HTTP://WWW.HAYWARD-CA.GOV](http://www.hayward-ca.gov)



Council Technology Application Committee (CTAC)

Meeting Minutes of September 17, 2014

Members Present: Al Mendall, Elisa Marquez, Sara Lamnin

Staff: Fran David, Kelly McAdoo, Diane Urban, Tracy Vesely, Mark Guenther, Steve Walsh, Jeff Smith, Ryan Hamre, Nathaniel Roush, Michael Barnes

Guests: None

Public Comments: None

1. Approval of Minutes

Minutes of June 11, 2014 Approved

2. Selection of Chair

Councilmember Mendall was selected as Chair by the Committee

3. Public Security Camera Pilot Program Update

Information Technology Director Mark Guenther introduced the staff report that was written by Technology Solutions Analyst Nathaniel Roush, who gave the Committee an update and shared some of the highlights of the report. V5 Systems was selected for beta testing in part because their cameras operate completely on solar power which means there is no cost to power the units. Since this is a wireless unit, there is no cost to trench wires or wiring underground to deploy the cameras, which is a huge advantage of this particular technology. This also means that we have the ability to deploy these lightweight cameras anywhere by mounting them on light poles very easily with a series of straps. When the cameras are mounted in one area and crime abates there, you can move them elsewhere. The other aspect to highlight is the way that these cameras can alert public safety of an event occurring at a location being monitored by the system. A zone is setup in the camera's viewing area and when an object enters this zone, an alert is triggered and an officer or dispatcher can be sent an email message with a picture of what caused the violation. You can then click on the picture and it gives you a live video of what's happening.

The fiscal impact of the beta testing period is that there is no cost to the City other than staff time to run this pilot project. We are at no obligation to buy this technology at the end of the 60 day trial period. The next step of the project is to identify where the six sites will be for the beta testing, the Police Department has identified potential hotspots. A document from Crime Analyst Lesley Hayes shows the number of calls between May and August 2014 identifying the location of the hotspots.

After the beta test period ends, staff will return to the Committee with more detailed information and results from the beta testing and this technology's potential effectiveness.

4. Enterprise Resource Planning (ERP) System Update

Information Technology Director Mark Guenther gave the Committee an update on the status of the ERP implementation project. The Human Resources/Payroll system is still projected to go live with the first paycheck in January. Staff is working with Munis payroll implementation consultants currently to get the system setup and tested. The Utility Billing system went live on September 4th, when the first batch of 3,000 bills was mailed out and the online site was activated. The Interactive Voice Response System (IVR) that allows people to pay over the phone with a credit card also went live.

Going live with work orders is largely an internal module, but this module will be leveraged to also help us bill against developer deposits for staff time spent on planning projects. The Work Order Module is scheduled to go live in October 2014. We also went live with our Business License Module at the beginning of August. This was a soft go live, as the real test is when we send out the annual renewals in mid-December when those are generated and mailed. We have already mailed out about 1,500 billings for annual fees out of that system. Finally, we've branded the online internet piece Hayward Self Service and the only module that is turned on now is the Utility Billing System as that is the only module that is live. In the coming months, we're going to be activating the online access to Business Licenses module, so people can pay their business license on line. There is a Vendor Self Service module that allows vendors who provide goods and services to the City to register and gain information about the status of their payments and purchase orders. Finally, there will be access for city employees to the Munis Employee Self Service module where staff will be able to securely sign on and view latest pay stub, check leave balances and enter time for payroll purposes.

A live demonstration was presented by Administrative Analyst Michael Barnes showing the online access to the Utility Billing module that allows customers to pay their utility bill online and sign up for automatic payments.

Member comments: Future meeting topics were suggested.

Next Regular Meeting: November 19, 2014 @ 4:30pm

Special Meeting: A special CTAC meeting will be scheduled – Date TBD

Meeting adjourned at 5:46pm



DATE: October 15, 2014

TO: Council Technology Application Committee

FROM: Information Technology Director
Fire Chief

SUBJECT: Update on Fire Connectivity: Issues, Resolution, and Timeline

RECOMMENDATION

That the Committee reviews and comments on this report.

BACKGROUND

In December 2009, Council approved and the City signed a contract with New World Systems for the acquisition and implementation of its Aegis Computer Aided Dispatch/Records Management System (CAD/RMS). This system replaced an existing system that was purchased in 1989. Project kickoff occurred in March 2010 with an implementation team consisting of staff members from the Police, Fire and Information Technology departments. Following a nearly two-year implementation effort, the new system went live on January 10, 2012.

The new system also replaced the legacy Police and Fire mobile clients running on computer hardware installed in Police and Fire vehicles. In both systems, dispatch information is sent from the central CAD server to the mobile client over the public carrier cellular data network in much the same manner as a smartphone might receive email.

Dispatch information on the Fire mobile client is supplemented in two other ways. Each fire station has a low voltage control and audio system that is activated by the central CAD server which performs a variety of functions, such as turning on speakers for the dispatcher to announce the call and turning on station lights. Each station also has a “rip-and-run” printer which prints dispatch information. This is in addition to radio communication between the dispatch center and the responding fire engine.

Attachment I to this report presents a graphical representation of the dispatch process from the Communications Center to the Fire Station.

DISCUSSION

Mobile client reliability issues were experienced early on that were not experienced in testing without the daily load of a live production system and were unforeseen. Despite the application of updates to its software version 9.2 provided by New World in May and July 2012, and the implementation of the version 10.2 release in July 2014, only incremental improvements have been seen to Fire mobile connectivity. System failures have persisted for almost three years in spite of diligent efforts on the part of the Information Technology and Fire departments. As a result, there are frequent inaccuracies in navigation to emergency response locations, delayed updates to the most recent and active emergency call, and inconsistent notification delivery to Command staff. This has a direct impact on the safety of Fire Department personnel, as well as the Hayward residents experiencing crisis situations.

At the same time, a parallel project to replace the existing mobile data computer (MDC) hardware in public safety vehicles with new technology and faster 4G wireless data speeds to increase mobile client performance was underway. For Fire vehicles, existing Panasonic Toughbook computers were upgraded to the latest CF31 model. Rather than continuing with internal (3G) modems, external single-carrier 4G wireless routers were installed.

Connectivity problems were also experienced early on, and despite the application of several firmware updates to the 4G wireless routers and an upgrade to the City's Netmotion servers (which maintain the connection between the wireless router and computer with the City's secure network) only incremental improvements have been seen.

Therefore, in May 2014, the City contracted with Definitive Networks Inc. (DNI), an experienced network engineering firm that specializes in providing IT services and connectivity for fire agencies such as Alameda County Fire, to perform a network engineering assessment, identify options, and make recommendations. As part of the assessment process, network and router configuration problems were identified and corrected, but again only incremental improvements were seen. Therefore, the decision was made to test an alternate wireless router called an inMotion Gateway that utilizes two cellular network cards. In this way, cellular provider coverage area weaknesses can be overcome by the device automatically switching to the alternate carrier. A new test wireless router was installed in a fire engine, and during the test period, it was determined that when the fire engine with the test router was enroute to a call, the router switched from the primary to the alternate carrier 14% of the time on average.

Based in part on these results, and in part on the successful use of these routers in neighboring agencies, the recommendation has been made to install these new routers in all fire apparatus, and the City Manager has authorized the purchase and installation of this equipment. After the equipment has been installed, the City must decide who shall provide the maintenance and support in the future. The viable options noted by Fire and Technology Services include:

1. Equipment installation provided by an expert vendor, with long-term maintenance and support provided in-house;
2. Equipment installation, maintenance, and support all provided by an expert vendor; or

3. Equipment installation, maintenance, and support provided by an expert vendor, inclusive of additional administration of RMS, Telestaff, ePCR, MDCs, and the Windows Domain used by the Fire Department.

DNI has extensive experience in providing technology support to other fire departments within the East Bay area, and is the chosen vendor to provide installation and performance monitoring of the new InMotion gateways. This is in addition to monitoring that would also continue to be done by IT Staff on the CAD/RMS system performance. DNI would also be the preferred vendor should the committee choose Option 2 or Option 3 to address ongoing maintenance and support issues.

Given the extended amount of time that the City has invested to resolve the technology problems in-house, the Fire Department encourages the Committee to consider utilizing DNI for ongoing Fire Department systems administration, as well as maintenance and support. Because there are a host of logistical and cost issues that need to be evaluated before proceeding with Options 2 or 3 above, the City Manager's office recommends that this evaluation occurs concurrently with the order and installation of the InMotion gateways, which could take up to 6-8 weeks. This allows the team to be prepared to implement alternate solutions should the InMotion installation not allow agreed upon performance standards to be met. Key performance indicators for response to various technology service issues to be provided by Technology Services or DNI that would meet the Fire Department's expectations would include:

1. Dispatch Function Impacted
 - Response within 10 minutes, on-site within 1 hour
 - 90% of issues resolved within 1 hours
2. Enterprise System Outage
 - Response within 30 minutes, on-site within 1 hour
 - 80% of issues resolved within 2 hours
3. Local Site Outage
 - Response within 1 hour
 - 80% of issues resolved within 4 hours
4. End User Performance Impacted
 - Response within 2 hours
 - 80% of issues resolved within 2 days
5. All Others
 - Responses within 4 hours
 - 80% of issues resolved within 5 days

Looking at the mobile client system as a whole, it is unclear whether fixing the connectivity issues alone will be the complete solution to the problem. New World Systems asserts that other California clients on the same release version Hayward uses are not experiencing the same problems. In order to further analyze the problems, support engineers from New World have implemented remote monitoring and advance trace logging of the mobile client software on in-service MDCs in order to collect data for analysis prior to full rollout of the dual cellular connection modems. At this time, New World is only collecting information, and no configuration changes will be made prior to the installation of the dual card modems.

In addition to the effort to resolve issues with the New World mobile client, the Fire Department would like to explore customizing the Fire Mobile Client beyond the current capabilities of New World. An agency in York, South Carolina utilizes a solution called Marvli that draws on New World's CAD data and presents the data in a customizable Fire mobile client. IT is exploring if this same setup will work in our environment and will work to set up a trial of the program during the next 6-8 weeks as well. Initially, the product would only be placed on the test system as to not impact our live Production environment. This will provide an opportunity to evaluate the complexity of supporting the solution as well as evaluating if it better fits the needs of the Fire Department.

FISCAL IMPACT

The CAD/RMS project had an approved budget of \$3.6 million. To date, the City has expended \$3.4 million, with the remaining balance due New World held until all remaining issues are addressed and final acceptance of the New World system is made by Police and Fire.

The estimated cost of the agreement with Definitive Networks Inc. for the new routers (inclusive of inMotion hardware, software and support) is would ultimately be dependent upon the recommended option chosen by the Committee to address ongoing system administration and support, as listed above. The Assistant City Manager, in the absence of the City Manager, has authorized the staff team to begin negotiations, as a starting point, for a “hardware-as-a-service” agreement with DNI that would cost approximately \$86,000 annually. This would include the monitoring and regular replacement of the InMotion units as discussed above. The initiation of these negotiations is critical and time sensitive given the urgency to resolve these lingering issues.

The estimated one-time installation costs for all InMotion units totals \$16,000 and this purchase has been authorized in order to expedite delivery of the units, anticipated to take about 6-8 weeks for delivery and installation from DNI. The Public Safety Mobile Replacement project budget, which funds ongoing replacement mobile technology needs, has appropriated budget for these costs for FY 2015. Funding for the annual cost of the HAAS agreement in subsequent years will need to be included in the CIP or Information Technology Internal Service Fund budgets. The costs and funding mechanisms for Options 2 and 3 outlined above are what warrant further analysis and discussion.

NEXT STEPS

Staff intends to request authorization from Council for a three-year HAAS agreement with Definitive Networks no later than November 18, 2014.

In the interim, DNI has agreed to install the dual carrier inMotion routers in two additional fire engines. Those routers are scheduled to be delivered by October 17 and installed as soon as possible. It is anticipated that new routers in the remaining fire apparatus will be installed within 6-8 weeks.

Information Technology Department staff is in the process of installing and configuring network monitoring software to monitor network traffic from the central CAD server, through the network

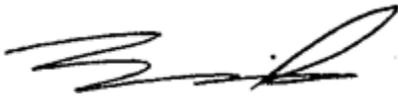
routers, switches and firewalls, out to the MDCs. Any further server or network infrastructure issues discovered would be corrected immediately. IT staff continue to work diligently with New World support engineers to analyze and resolve remaining mobile client software issues.

Should the combined efforts described above fail to result in a mobile client system that meets the reliability requirement of 97% uptime, data from network monitoring would be used to determine if the problem was related to continued connectivity issues. In the event that it is for one or more units, IT staff would work with DNI engineers to evaluate whether mobile satellite connectivity technology, which is more expensive to implement than the recommended inMotion routers, is a feasible solution.

If connectivity issues are ruled out, as previously mentioned, staff is working on evaluating the capabilities and feasibility of implementing an alternate Fire Mobile Client that is currently in use by another agency utilizing the New World CAD system.

Recommended by: Mark Guenther, Information Technology Director
Garrett Contreras, Fire Chief
Jeff Smith, Operations Support Services Manager

Approved by:



Fran David, City Manager

