



# CITY OF SAN ANTONIO

P. O. BOX 839966  
SAN ANTONIO TEXAS 78283-3966

April 15, 2013

**Julián Castro**  
Mayor

**Diego M. Bernal**  
Councilman, District 1

**Ivy R. Taylor**  
Councilwoman, District 2

**Leticia Ozuna**  
Councilwoman, District 3

**Rey Saldaña**  
Councilman, District 4

**David Medina, Jr.**  
Councilman, District 5

**Ray Lopez**  
Councilman, District 6

**Cris Medina**  
Councilman, District 7

**W. Reed Williams**  
Councilman, District 8

**Elisa Chan**  
Councilwoman, District 9

**Carlton Soules**  
Councilman, District 10

SUBJECT: Audit Report of Customer Service/311 CRM - System

Mayor and Council Members:

We are pleased to send you the audit report of the Customer Service/311 – CRM System. This audit began in September 2012 and concluded with an exit meeting with department management in March 2013. Management's verbatim response is included in Appendix B of the report. The Customer Service/311 Department should be commended for its cooperation and assistance during this audit.

The Office of the City Auditor is available to discuss this report with you individually at your convenience.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Kevin W. Barthold'.

Kevin W. Barthold, CPA, CIA, CISA  
City Auditor  
City of San Antonio

Distribution:

Sheryl L. Sculley, City Manager  
Ben Gorzell, Chief Financial Officer  
Edward Benavides, Chief of Staff, Office of the City Manager  
Antonio Bosmans, Director, Customer Service/311  
Michael D. Bernard, City Attorney  
Leticia M. Vacek, City Clerk  
Robbie Greenblum, Chief of Staff, Office of the Mayor  
Jaime Castillo, Communications Director, Office of the Mayor  
Frances A. Gonzalez, Assistant to the Mayor, Office of the Mayor  
Donald Crews, Audit Committee Member  
Stephen S. Penley, Audit Committee Member

---

**CITY OF SAN ANTONIO**  
**OFFICE OF THE CITY AUDITOR**



Audit of Customer Service/311

CRM System

Project No. AU12-020

April 15, 2013

Kevin W. Barthold, CPA, CIA, CISA  
City Auditor

---

## Executive Summary

---

As part of our annual Audit Plan approved by City Council, we conducted an audit of the Customer Service/311 Department, specifically the Customer Relationship Management (CRM) system. The audit objectives, conclusions, and recommendations follow:

### **Is customer service request workflow effective?**

### **Are results accurately monitored and reported?**

Yes, customer service request workflow is effective. The CRM system correctly interfaces with the other City departmental work order systems and users are properly trained.

However, results are not accurately monitored and reported. Specifically, the service level agreement (SLA) performance percentage calculation is incorrect due to canceled and reassigned service requests. Additionally, a system error existed in FY 2012 that incorrectly calculated business day SLA due dates. This system error was corrected during the audit; however, the overall level of impact on the accuracy of SLA reporting due to these issues could not be determined.

Additionally, CRM users have inappropriate access roles that allow them to change SLA due dates and suspend service requests. Finally, not all key CRM processes and SLA approvals are properly documented.

We recommend that the Customer Service/311 Director

- Develop procedures to identify and track service requests that affect the accuracy of the SLA performance percentage calculation. This should include canceled and reassigned service requests.
- Consult with Lagan, the software vendor, to determine the feasibility of enhancing system controls associated with SLA due dates.
- Periodically monitor user profiles to ensure roles are current and access is still required.
- Develop written procedures for all essential CRM processes.
- Obtain and maintain documented SLA approvals for the Development Services and CIMS departments. In addition, documented approvals should be maintained for any SLA changes or updates.

Customer Service/311 Management's verbatim response is in **Appendix B** on page 8.

## Table of Contents

---

Executive Summary .....	i
Background.....	1
Audit Scope and Methodology .....	2
Audit Results and Recommendations .....	3
A. CRM Interface Functions Correctly .....	3
B. Users Properly Trained.....	3
C. Incorrect SLA Performance Percentage Calculation .....	3
D. CRM Users have Inappropriate Access.....	4
E. Essential Processes Not Properly Documented .....	5
F. Department Authorization Lacking for SLAs .....	6
Appendix A – Staff Acknowledgement .....	7
Appendix B – Management Response.....	8

## Background

---

The Customer Relationship Management (CRM) system functions as the City-wide intake system for all customer service requests. It was designed to enhance customer service by improving communications, data tracking, and reporting. The CRM System was developed by Lagan Technologies (Lagan) which is a subsidiary of KANA Software. It was purchased for \$893,000 with a total cost including implementation of \$3.5 million. The system went live on October 17, 2011.

Currently, Animal Care Services (ACS), Capital Improvement Management Services (CIMS), Code Enforcement Division, Development Services, Parks and Recreation, Public Works, and Solid Waste Management are using CRM as a part of the Phase 1 implementation.

All service requests must be entered into CRM. They can be submitted by calling 311 or utilizing the self-service portal located on the COSA Web or San Antonio.gov website. The service request will then interface with the appropriate department's work order system. Similarly, when a work order is completed in a department's work order system, the updated status will automatically interface to CRM. For fiscal year 2012, CRM processed approximately 408,000 service requests.

In order to maximize efficiency and accuracy, CRM uses a script based system that ensures service requests are directed to the correct departments. Through a series of prompted questions for the 311 operator, CRM will gradually narrow the request down until it is finalized and sent to the appropriate department and division to provide response.

All service requests have an associated service level agreement (SLA). SLAs are established to serve as performance measures for key functions and services. These SLAs detail the number of days or hours a department has to complete the service order. Each department is tasked with responding to service orders and tracking and reporting on its SLAs. Customer Service/311's Citywide performance measure is to have 85 percent of service requests completed within the designated SLA timeframe.

In addition, CRM has an informational search feature called the Knowledge Base. The Knowledge Base gives operators access to a comprehensive database of City information that allows them to find information requested by the caller. This database was built and populated as part of the development of CRM.

## **Audit Scope and Methodology**

The audit scope included all CRM service requests from July 1, 2012 to September 30, 2012 and associated Customer Service/311 processes and procedures.

We interviewed the Director of Customer Service/311, the CRM Project Director, Information Technology Service Department (ITSD) Management, and CRM users at all Phase 1 departments. Additionally, we observed the functioning of the CRM system at these departments and reviewed training materials. We manually tested the CRM interface with the departmental work order systems by selecting a sample of service requests and tracing them between the systems. We also reviewed user access to the suspension function in CRM. Finally, we reviewed the reporting function in CRM. Testing criteria included administrative directives and Customer Service/311 procedures.

We relied on computer-processed data in the departmental work order management systems to validate the interface between CRM and these systems. Our reliance was based on performing direct tests on the data rather than evaluating the systems' general and application controls. Our direct testing included tracing individual service request between CRM and the work order management systems. Additionally, we observed City staff obtaining the system populations to verify correct dates were used and required elements were included. We do not believe that the absence of testing general and application controls had an effect on the results of our audit.

We conducted this audit from September 2012 to February 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our audit results and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our audit results and conclusions based on our audit objectives. Our audit included tests of management controls that we considered necessary under the circumstances.

## Audit Results and Recommendations

---

### A. CRM Interface Functions Correctly

CRM is accurately interfacing with the various departmental work order management systems. We manually tested the interface function between CRM and the departmental systems and determined that service requests created in CRM are correctly interfacing. The service type, dates and times of creation agreed between CRM and the work order systems. Additionally, the dates and times of closing service requests agreed between the systems and CRM. Finally, we determined all notes in the work order management systems were migrating correctly into CRM.

#### Recommendation

None.

### B. Users Properly Trained

We determined that CRM users are receiving the proper training for the use of the system. We judgmentally selected 25 CRM users out of a total population of 608 users and determined the required users had attended a CRM training class. Additionally, we noted that training materials and resources are adequate to provide users with sufficient guidance on use of the system.

#### Recommendation

None.

### C. Incorrect SLA Performance Percentage Calculation

The CRM calculation of the overall SLA performance percentage is inflated due to canceled cases, a business day system SLA error, and reassigned service requests. Canceled service requests inflate the SLA performance percentage because they are canceled before any work has been completed on the service request, but still show as completing within the SLA due date in CRM. According to management, this is a system limitation of CRM.

CRM was also incorrectly calculating all SLAs that are measured by business days (as opposed to calendar days). The system was incorrectly adding one additional day to all business day SLAs. This miscalculation occurred from the go-live date of October 17, 2011 through October 21, 2012. According to management, this was due to a system error. Customer Service/311 management was aware of this problem and informed us of the issue during the

audit. The miscalculation was corroborated through our interface testing procedures. Customer Service/311 management informed Lagan of this issue on September 26, 2012. The issue was corrected on October 21, 2012.

For the last quarter of FY 2012, we determined these two errors inflated the performance percentage of 94 percent by approximately 4 percent. While this amount may be immaterial, the SLA performance percentage was not completely accurate.

Finally, reassigned service requests were also inflating the SLA performance percentage. A service request must be reassigned when it appears in the incorrect department's work order management system. Customer Service/311's current process is for the initial (or incorrect) department to close the service request and reopen it for the correct department. This practice inflates the SLA performance percentage whenever it is closed out within the SLA due date. In these cases it appears as a completed work order, when in fact, no work had been performed on the service request. According to ITSD management, the CRM system is not capable of identifying reassigned service requests. As such, the true impact on the reported SLAs cannot be determined.

Correct calculation of SLA due dates is essential for accurate tracking and reporting and ensuring that Customer Service/311 and other departments are truly achieving performance measure goals.

### **Recommendation**

The Customer Service/311 Director should develop procedures to identify and track service requests that affect the accuracy of the SLA performance percentage calculation. This should include canceled and reassigned service requests.

## **D. CRM Users have Inappropriate Access**

### **Ability to Manually Change SLA Due Dates**

CRM users have inappropriate access that allows them to manually change SLA due dates in the system. During the audit, Customer Service/311 informed us that the SLA due dates for service requests could be manually changed without authorization. We confirmed this through observing a departmental user who created a service order and manually changed the due date. According to management, this is simply how the CRM system functions and it is not considered a system error.

According to Customer Service/311 management, individual service request due dates should not be altered from what has been established for the SLA in CRM.

Therefore, access controls are essential to ensure accurate reporting and that no unauthorized changes are made to service request due dates.

### **Access to Suspend Service Requests**

Some CRM users have improper access roles that allow them to suspend service requests. The CRM system has a function that allows authorized individuals to suspend service requests. This command should only be used in extenuating circumstances and should be properly authorized, since it freezes the SLA due date timing function. We determined that 14 of 50 users with suspension rights were not authorized. Each user department is required to have procedures for suspending service requests along with designated authorized individuals. This occurred because Customer Service/311 does not have a documented procedure in place to periodically review CRM system roles. Additionally, Customer Service/311 could not provide department approved listings of users authorized to suspend service requests.

Administrative Directive (AD) *7.8 User Account Management* states that access privileges to information and IT resources shall be reviewed on a regular basis depending on the type of system to ensure that users have the least privileges they need to fulfill their duties. Furthermore, AD 7.8 states that Administrators shall periodically review the accounts, as defined by the business or system owner, no less than annually against lists/rosters of possible users.

Authorization and access controls are essential to prevent misuse or abuse of this function which ultimately affects City departments' and Customer Service/311's Citywide CRM performance measures.

### **Recommendation**

The Customer Service/311 Director should consult with Lagan to determine the feasibility of enhancing system controls associated with SLA due dates. The Director should also periodically monitor users to ensure roles are current and access is still required for critical CRM functions.

### **E. Essential Processes Not Properly Documented**

While informal processes do exist, Customer Service/311 has not documented various key CRM policies and procedures. We determined the following processes and procedures for CRM are not formally documented:

- Reassigning incorrect service requests
- Knowledge Base updates
- Reporting of CRM results
- System access and role assignment
- Training requirements
- Service request suspension procedures including authority levels

- Investigation of opened CRM service requests not in a work order system

Formal, documented procedures are important to ensure accountability and consistency of Customer Service/311's operations.

**Recommendation**

The Customer Service/311 Director should develop written procedures for all essential CRM processes.

**F. Department Authorization Lacking for SLAs**

Customer Service/311 did not ensure that all SLAs had proper documented authorization on file. Documented SLA approvals did not exist for the Development Services and Capital Improvements Management Services (CIMS) departments upon requests. According to Customer Service/311 management, departmental sign-off is required for all SLAs. This ensures that all SLAs for service requests have been reviewed and approved by the appropriate department personnel. Customer Service/311 was unable to locate the sign-off sheets for these departments. Obtaining and maintaining documented approvals is a key control to ensure that all departmental SLAs are appropriately authorized.

**Recommendation**

The Customer Service/311 Director should obtain and maintain documented SLA approvals for the Development Services and CIMS departments. In addition, documented approvals should be maintained for any SLA changes or updates.

## **Appendix A – Staff Acknowledgement**

---

Brian K. Williams, MBA, CFE, CIA, CRMA, CGAP, Audit Manager  
Douglas Francis, MSA, Auditor-in-Charge  
Cristina Hernandez, Auditor

## Appendix B – Management Response



### CITY OF SAN ANTONIO

SAN ANTONIO TEXAS 78283-3966

April 9, 2013

Kevin W. Barthold, CPA, CIA, CISA  
 City Auditor  
 San Antonio, Texas

RE: Management's Corrective Action Plan for the Audit of Customer Service/311 CRM System

Customer Service/311 has reviewed the audit report and has developed the Corrective Action Plans below corresponding to report recommendations.

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
C	<p><b>Incorrect SLA Performance Percentage Calculation</b></p> <p>Recommendation</p> <p>The Customer Service/311 Director should develop procedures to identify and track service requests that affect the accuracy of the SLA performance percentage calculation. This should include canceled and reassigned service requests.</p>	4	Accept	Paula Stallcup, CRM Project Director	May 1, 2013
<p><b>Action plan:</b></p> <p>Upon discovery of the system limitations involving the cancelled and reassigned service requests, Customer Service/311 immediately contacted Kana (CRM vendor) on October 10, 2012 to determine necessary steps to request changes. A follow-up call with the vendor was conducted on April 8, 2013 wherein the vendor provided options to address these cases and present a solution by May 1, 2013.</p> <p>In the interim, draft SOPs were written detailing controls that will be put in place to footnote the SLA compliance in all required reports so that canceled and reassigned service requests will be deleted from the total case counts. A copy of the SOP will be provided to the Auditor's Office for review and comment. Effective May 1, 2013, the final SOPs will be distributed to the departments for immediate implementation.</p>					

## Appendix B – Management Response (continued)

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
D	<p><b>CRM Users have Inappropriate Access</b></p> <p>Recommendation</p> <p>The Customer Service/311 Director should consult with Lagan to determine the feasibility of enhancing system controls associated with SLA due dates. The Director should also periodically monitor users to ensure roles are current and access is still required for critical CRM functions.</p>	5	Accept	Paula Stallcup, CRM Project Director	May 15, 2013
<p><b>Action plan:</b></p> <p>With regard to manually changing SLA due dates, the CRM vendor has identified a solution whereby the manual ability to enter cases would be disabled; therefore disabling the ability to change the SLA due date at the creation of a case. The City has requested the CRM vendor to move forward with this change which is scheduled to be completed by May 15, 2013.</p> <p>On January 6, 2013, utilizing a list provided by Information Technology Services Department (ITSD), Customer Service/311 completed a review of department users. All seven (7) participating core departments were required to review the list and make necessary deletions/corrections in order to ensure that their staff had the appropriate access based on their individual function/role. The user database has been updated to reflect submitted changes. The review was specific to ensure that the pool of users with suspension authority was approved by the departments.</p> <p>Departments will be required to provide a semi-annual listing of all users approved to have this specific function. This review will be completed twice a year in January and July to ensure internal roles remain up to date. The review requirement will be included as part of the formal written procedures for essential CRM processes. Additionally, participating departments will be required to advise ITSD and Customer Service/311 of the necessity to remove/change access for a user within five (5) working days of the user leaving the department of the position.</p>					
E	<p><b>Essential Processes Not Properly Documented</b></p> <p>Recommendation</p> <p>The Customer Service/311 Director should develop written procedures for all essential CRM processes.</p>	6	Accept	Paula Stallcup, CRM Project Director	May 1, 2013

## Appendix B – Management Response (continued)

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
	<p><b>Action plan:</b></p> <p>Customer Service/311 will complete formal written policies and procedures documenting essential CRM processes and distribute to departments no later than May 1, 2013. Copies will be provided to the Auditor's Office.</p> <p>The documentation will specifically address the following key processes:</p> <ul style="list-style-type: none"> <li>• Reassignment of incorrect service requests</li> <li>• Knowledge Base updates</li> <li>• CRM Results Reporting</li> <li>• CRM Access and Role Assignments</li> <li>• Training</li> <li>• Appropriate authority for SLA suspensions</li> </ul> <p>These written policies and procedures will document current operations for CRM and ensure accountability and consistency with business processes.</p>				
F	<p><b>Department Authorization Lacking for SLAs</b></p> <p>Recommendation</p> <p>The Customer Service/311 Director should obtain and maintain documented SLA approvals for the Development Services and CIMS departments. In addition, documented approvals should be maintained for any SLA changes or updates.</p>	6	Accept	Paula Stallcup, CRM Project Director	March 14, 2013
	<p><b>Action plan:</b></p> <p>Prior to October 2011 (Go live), documented SLA approval sign-off sheets were obtained for the following departments:</p> <ul style="list-style-type: none"> <li>• Animal Care Services</li> <li>• Code Enforcement</li> <li>• Parks and Recreation</li> <li>• Public Works</li> <li>• Solid Waste Management</li> </ul> <p>Customer Service/311 engaged in regular communication/participation with Executive Staff in the development of SLAs for these departments prior to instructing KANA to move to production. Formal documentation was received for Development Services and Capital Improvement Management Services on March 14, 2013.</p>				

We are committed to addressing the recommendations in the audit report and the plan of actions presented above.

## Appendix B – Management Response (continued)

---

Sincerely,

  
\_\_\_\_\_  
Tony Bosmans  
Director  
Customer Service/311 Department

4-9-13  
Date

  
\_\_\_\_\_  
Edward Benavides  
Chief of Staff  
City Manager's Office

4-9-13  
Date