COPY

A SOLUTION PROPOSAL FOR:

Chatham County, Georgia

Request for Information

CAD/RMS System

Solicitation No. 19-0062

PRESENTED BY:

SmartCOP, Inc.

June 28, 2019

SmartCOP, a business unit of Harris Systems USA, Inc.

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June 28, 2019

Peggy Joyner
Purchasing Director
Chatham County
1117 Eisenhower Drive Suite C
Savannah, GA 31406

Subject: RFI 190062 for CAD/RMS System

Dear Ms. Joyner,

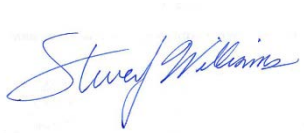
On behalf of SmartCOP, Inc., it is my pleasure to present this proposal in response to the Request for Information (RFI) issued by Chatham County for a Computer Aided Dispatch (CAD) and Records Management System (RMS). An integrated system from SmartCOP will dramatically improve operations, facilitate better communication throughout the system and allow the County to better serve its citizens.

We are confident that the information provided in the following pages will clearly demonstrate SmartCOP's ability to meet the County's goals using our proven solutions along with the ability to deliver the required integrated solution on time and within budget once the RFP is released. Our solution is first class, fully scalable, reliable, and multi-jurisdictional. More importantly, we are committed to providing your county with excellent service and support.

Our main point of contact for purposes of this request for information is John Jolin, Regional Sales Representative. John is available at (678) 521-6216 to discuss any questions relating to this proposal.

We look forward to the opportunity to talk with you more about our CAD/RMS solution. We firmly believe that the SmartCOP solution combines the product, the experience and the approach to fully meet the County's goals.

Sincerely,



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1 Executive Summary

1.1 Overview

As SmartCOP has reviewed the Chatham County Request for Information (RFI) for an Integrated Public Safety Information Solution, it is clear to us that our products will demonstrate an excellent example of the software you are interested in. Therefore, we are presenting our COTS (Commercial-off-the-Shelf) fully integrated Public Safety Software System consisting of Computer Aided Dispatch (CAD), Records Management System (RMS), and our mobile software solution with field-based reporting (MCT and FBR).

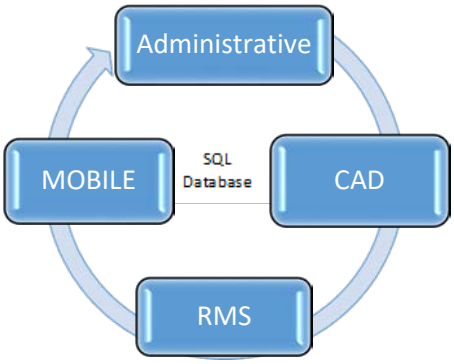


Figure 1-1: Comprehensive software suite for seamless integration, with a single, central database shared among all applications.

Our public safety software systems have been designed and developed for seamless integration with a single point of data entry using a unified, central database shared among all applications. SmartCOP's solution is flexible enough to serve current and future needs of Chatham County, and our feature-rich, integrated system is based upon advanced, yet proven technology derived from current industry standards.

Below is a list of specific goals Chatham County is requesting for the Integrated Public Safety Information Solution. Our goal is to provide you with that information, as well as a further understanding of how our software will exemplify the software you are requesting.

- CAD/Mobile/RMS system integration.
- The functionality of each major system (e.g., CAD, Mobile, GIS/mapping, Law Enforcement RMS, etc.).
- Modules of each major application.
- Technical architecture information – Uptime, dependability, performance, continuity of operations/hot fail-over, disaster recovery.
- System interface information – Federal, state and local databases plus third-party applications including Power Phone Electronic Medical Dispatch.
- System dashboard and reporting capabilities.
- Business Intelligence solution options if different than above system reporting capabilities
- System configuration capabilities.
- Approach regarding legacy CAD/RMS system data conversion and/or access to legacy CAD/RMS system data.
- Support and warranty information.

1.2 The SmartCOP Advantage

First, there are three significant advantages of choosing SmartCOP over other vendors for your Public Safety Software replacement. These advantages address your request for an integrated system as well as information pertaining to support and warranty information.

- Single vendor, single database, fully integrated system
- Software for Life Credit

- Harris ownership will not change

1.2.1 Single Vendor

We understand the county's desire for an off-the-shelf, single vendor system, which eliminates the inefficiencies and data inaccuracy of multiple disconnected products. SmartCOP's solution has been designed, from inception, as a fully integrated system. Each module in our software suite utilizes the same Master Index File (persons, business, vehicle, and vessel) allowing for easy searching and linking of records, thus reducing redundant data entry. The master record contains all known data, as well as a complete history list of every record in the system it is related to (i.e., dispatch incidents, case involvements, arrests, citations, crashes, civil processes, wants/warrants, gang affiliation, inmate records, permits, and more). With the click of a button, you can view the entire history.

Information is shared throughout the system. With CAD, the dispatch center captures information at the time a call is received. This information is entered, stored in SmartCAD, and available for queries. Next, users create reports in the RMS based on the information entered in CAD eliminating the need to reenter collected data twice.

With the proposed integrated and multi-jurisdictional system, law enforcement and emergency responders all have immediate access to notifications, alerts, and warnings on names, addresses, vehicles, and vessels while related records are a click away. The County will also have immediate access to critical functions including Dispatch, Automatic Vehicle Location (AVL), Situational Mapping, Queries, Electronic Citations, Crash Reporting, and Analytic Reporting.

1.2.2 Software for Life

SmartCOP is committed to providing clients with the best investment possible through our comprehensive annual maintenance and support agreement. Upgrades and enhancements are included with the cost of maintenance. Most other public safety software vendors charge separately for upgrades and enhancements or specify a limited time during which enhancements are free.

All new features and enhancements, whether requested by existing customers or initiated internally by SmartCOP's product line managers, are included at no additional charge to each of our agencies under an active maintenance agreement. Customers that purchased our software system 20 years ago have the latest version of our products in production. No customer is left behind.

1.2.3 SmartCOP Ownership

SmartCOP is a financially sound division of N. Harris Computer Corporation, a subsidiary of Constellation Software, Harris Inc. Harris buys and holds companies, but they never sell their acquisitions, unlike many of our competitors that are owned by private equity firms. SmartCOP ownership will not change. SmartCOP is here to stay!

1.3 Qualifications

Since 1999, SmartCOP has worked with local and state agencies across the United States to provide a fully integrated, single-source solution. The system's ability to furnish information through a single database (Microsoft SQL) reduces redundant data entry and improves information flow. Our experience with public safety agencies throughout the Southeast demonstrates that SmartCOP has the qualifications and understanding required to provide the best solution to Chatham County.

SmartCOP has a strong presence in the State of Georgia as the software vendor for the Georgia Department of Public Safety. The Georgia Department of Public Safety adopted our systems in 2009 for the Georgia State Patrol. Since that time, additional state agencies, notably Motor Carrier Enforcement, Capitol Police, Georgia Department of Natural Resources, and most recently, Georgia Forestry have chosen SmartCOP's system.

Recent implementations of our software in Georgia include Stone Mountain Park Department of Public Safety. The Gwinnett County Sheriff's Office have been using portions of our records management system in conjunction with the Jail Management System since early 2017.

With over 125 agency implementations in the Southeast, we offer proven, easy-to-use, state-compliant software. Our agencies range in size from small municipalities with ten officers to state agencies with 2500 officers. We also service multi-jurisdictional agencies similar in size and scope to Chatham County.

Our expertise with multi-jurisdictional agencies ensures system-wide data integration and appropriate level access to information. We streamline the information gathering process, provide data sharing between the agencies, enable implementation of distinct security settings and allow agency-specific permissions.

1.4 SmartCOP's Software Solutions

SmartCOP's software exemplifies an integrated software solution designed to enhance operations while adhering to the County's specific protocols and requirements. Our complete software suite would provide Chatham County, and the following will highlight a brief overview of each application.

With the total system, the County would have immediate access to critical functions including Dispatch, Automatic Vehicle Location (AVL), Situational Mapping, Queries, Electronic Citations, and Crash Reporting. Based on our experience, we believe the County would immediately see enhanced officer safety and improved productivity by implementing the SmartCOP solution. With access to real-time reporting, citations, and immediate access to vital data required to make critical decisions, the SmartCOP solution will become an indispensable tool for every officer in the county.

The SmartCOP solution includes:

- The latest generation of the highly successful SmartCOP software tools, including:
    - SmartCAD - The SmartCAD system provides comprehensive tracking of units and incidents. Verification of location and historical data ensures incident information is accurate and relevant. Calls are color-coded to reflect priority level and status. Updates to calls post instantly and are available to all users. In addition, configuration options allow your agency to define many required elements, such as incident types, disposition codes, street aliases, shift designations, and patrol zones.

      Any changes made to a call are immediately visible to each user logged into the system. Changes are event-driven, meaning users do not have to refresh the data or request an update. Supervisors can quickly assess the status of all units and calls and manage resources appropriately. Event-driven CAD is also a function of the mobile application, allowing users to view immediate changes made to calls.

SmartCAD is simple to use, and the E911 feed and address verification results in fast, accurate data entry. All incident and unit information is stored in a call history archive for reporting and reference until purged by the agency. Our recent partnership with RapidSOS also means our CAD location services are some of the most accurate on the market, as location is found based on several factors including the tradition cell-tower triangulation in conjunction with Wi-Fi signal and Bluetooth beacons.

SmartCAD, together with the Mobile Software, provides the ability to accumulate Demographic Data Collection for analytical purposes.

- SmartRMS - The SmartRMS system seamlessly integrates with SmartCAD, and shares a common Master Index (person, business, vehicle, and vessel). New incident data automatically populates from CAD to RMS as incidents are initiated and completed. Approved Field Report data also is populated and indexed into the appropriate RMS fields. The SmartRMS system includes Evidence and Case Management as well as a repository for all reports that originate in the field-based reporting module from SmartMOBILE.

- SmartMOBILE – Comprised of two major modules, Mobile Computing Terminals (MCT) and Field Based Reporting (FBR), our SmartMOBILE solution extends the power of SmartRMS out to the mobile officer. The MCT provides officers access to data from the vehicle including State/NCIC interface, notifications, records management interfaces, report review/approval and other customizable interfaces. The Field Based Reporting module seamlessly operates on a server, or offline in remote locations via the disconnected mode. These reports are highly configurable for your agency's unique demands and requirements.

- SmartADMIN - This group of software applications will enable centralized configuration, access management, and recordkeeping for the most common administrative support functions. These also act as the dashboard and reporting tools for SmartCOP software in regard to data analytics, employee and company property information, and public access to data collected.

- Deployment of SmartCOP software on agency servers
- Interfaces to the external data sources, and destinations, cited in this RFP
- Training of the system administrators for support of the server and application software
- User training for application software
- Project Management
- Staff members dedicated to this project and backup personnel and resources as needed
- 24/7/365 support to the software and system infrastructure as required by the RFP

1.5 SmartCOP's Mission

SmartCOP has a single and simple goal: To support the mission of the agencies we serve.

To accomplish this goal, we do everything possible to make sure our customers do not perceive us as a vendor, but rather consider us a partner. We develop a long-term partnership with our customers. We implement and support a software system that meets their needs not only today but into the future. We understand our customer's goals and objectives and deliver to their expectations.

Most importantly, we never lose sight of the core values that have guided our company since our formation:

- We value and implement customer feedback
- We value and implement the highest of ethical business practices
- We treat our employees, business partners, and customers with respect at all times
- We value and implement diversity at all levels
- We understand that we have a duty and obligation to always place community and agency safety first

We believe our fully integrated solution will enable Chatham County to accomplish their goal of an Integrated Public Safety Solution.

2 Application Software

SmartCOP's software solution includes three distinct and fully integrated applications for the purposes of this RFI:

- Computer Aided Dispatch (CAD)
- Records Management (RMS)
- SmartMOBILE that includes Mobile Computing (MCT) with Field Based Reporting (FBR).

Our software solution is built on the industry standard Microsoft foundation, which includes Microsoft .NET framework, SQL server database, Windows Server, and virtualization for easy system administration. This software is highly configurable and integrates with external systems effortlessly, while still being easily maintained, functionally comprehensive, and extremely intuitive to the user.

SmartCOP's solution is a client/server application for our CAD and RMS software. To ensure responsiveness and ease of maintenance in the disconnected settings that often occur in mobile computer environments, we utilize a multi-tier solution, meaning that mobile applications can run in a completely disconnected mode. This allows users to write reports and issue citations or warnings without delay and then transmit these reports when data connection becomes available.

2.1 Computer Aided Dispatch

The Computer Aided Dispatch (CAD) system allows comprehensive tracking of all calls for law enforcement, fire, and emergency medical units, as well as the status of assigned and unassigned officers. Calls are color-coded to reflect priority level and status. Updates to calls are posted instantly and are available to all users.

Any changes made to a call are immediately visible to each user logged into the system. Changes are event-driven, meaning users do not have to refresh the data or request an update.

When a 911 call is received at the station, the call taker enters the information into CAD, pulling the location from the 911 feed. The location is verified against the geographic table, and the primary and sub geographic areas are assigned to the call. Any alerts about prior calls, directions, or caution notes for the location appear on the call record.

The call taker enters the type of complaint or nature of the call. At this point, the call is available for viewing by other CAD users and officers in the field using their mobile computer or device. When vehicle details are entered, any alerts about prior calls, caution notes, BOLOs, or tow logs for this vehicle appear on the call record. The dispatcher assigns units to the call. The call record is updated when units arrive on scene and notes may be added, as necessary. The unit requests that an offense/incident number be created for the call. When complete, the call is closed and disposition codes are assigned to indicate the outcome of the call. The offense/incident number and primary disposition code are used to create an incident report using the SmartRMS application. The incident details are pulled from CAD history, such as the reporting unit, incident date and time, and incident location.

SmartCAD is entirely integrated with NCIC (State & Federal) and Local (Master Name, Vehicle, and Boat history) query to provide real time current information to dispatch and law enforcement staff.

RapidSOS Partnership

SmartCOP has also recently partnered with RapidSOS, a company that provides location data from 911 callers using iOS and Android devices by securely accessing their Wi-Fi signal, Bluetooth beacons, cell-

tower triangulation, GPS, and more. RapidSOS' Clearinghouse solution has been proven to provide more accurate call location than the traditional 911 cell phone call.

SmartCOP integrates this functionality into the SmartCAD system so caller information is pinpointed to the exact location of the cell phone caller. The location is displayed within our mapping system as well, so the caller location is not only available to the CAD user but also to the mobile officer responding to the caller.

RapidSOS also has paired with Uber to keep mobile users on the road safe. For example, if a user hits the panic button in the Uber app, the location of the call is captured and sent to RapidSOS and is updated as the user moves locations. This modern feature is being integrated into the functionality of our SmartCAD and mapping systems. In this way, our CAD system is becoming increasingly modernized in order to keep up with the new technology at hand.

Multiple Agency Jurisdictions

SmartCAD accommodates multiple agency jurisdictions with numbers unique to each specific agency. A unique incident number is automatically generated for each call entered in CAD. Report/case numbers are then assigned within the call record, with numbers unique to the agency that the report number is being assigned. This allows a single CAD call to generate report/case numbers for multiple agencies. Regarding Chatham County, this would work well for the multiple law enforcement, fire/rescue, and EMS agencies listed in the RFI.

Simple to Use

SmartCAD is simple to use, and the E911 feed, address verification, and pre-set complaint types result in fast, accurate data entry. All incident and unit information is captured and stored in a call history archive for reporting and reference. The built-in interfaces to SmartRMS and mobile laptops facilitate reporting, dispatching, and booking.

Transaction Logging and Time Stamps

SmartCAD features transaction logging that is completely configurable. CAD logging is done through event-driven transactions on the database and is not performed through the client application. This reduces the amount of processing time and network traffic required by the client application. Transactional logging can be used to show record modifications down to the field level. This allows for an audit trail of actual call data changes, including previous field data and the identity of the person making the change. Extensive time stamping to record all phases of a call is also included. All unit status changes are time stamped and recorded.

Leveraging the Power of Microsoft Windows

SmartCAD leverages the power of Microsoft Windows to allow for an unlimited number of call windows to be viewed at once on any single workstation. Navigation between these windows is accomplished through the use of hot-keys. Any number of users can have the same call open simultaneously. This allows both users to view and edit data on the call at the same time. Advanced locking algorithms are used to prevent users from overwriting each other's changes or additions.

Multiple Monitors

SmartCAD was designed with the ability to use multiple monitors. Window positions are remembered and controlled by the application. This allows the dispatcher to have a virtually unlimited amount of computer workspace.

Customizable Settings

Users may customize system settings to their unique viewing preferences including:

- Font size
- Color Schemes
- Geo areas that appear and the units and incidents within those areas

Location Validation

When a call is entered, the location of occurrence and dispatch location is validated to the geo system. Once the location is validated, a number of visual and audible flags alert the user of any possible officer safety issues. These call flags include premise history, prior calls, caution notes, possible duplicate calls, call proximity alerts, and valuable location emergency information. The dispatcher then warns the officer of potential danger. The same logical progression happens when subjects and vehicles are added to the call. Flags are set and dispatchers are notified of potentially dangerous circumstances, which can be passed along to the dispatched officer.

ESRI Mapping

SmartCAD includes a fully integrated ESRI-based mapping solution which is a major functionality in the software. Maps are fully configurable, allowing the dispatcher to view an unlimited combination of mapping layers. These layers are used to display any mapping information including area information, street information, and hydrant information. Incidents are displayed on the map using a configurable icon. These icons can be set to visually represent the type of incident being displayed on the map. Once unit mobile computer terminals (MCT's) are AVL enabled and transmitting location information, units appear on the map in their actual locations. This allows the dispatcher to visually see unit proximities to incidents.

Routing directions and time-of-travel from unit to incident are also an available mapping function. Time-of-travel is based off of statistical analysis of AVL data for individual road segments. This data is also utilized in determining unit recommendations.

Unit Recommendation

SmartCAD incorporates an advanced unit recommendation engine that is completely configurable. The unit recommendation engine presents a list of suggested units to the user based on a calculation that considers:

- Area of Responsibility
- Unit Manning
- Complaint Type Requirements
- Unit Attributes
- Travel Distance

The system administrator can configure the unit recommendation engine to use any of the determining factors above. Priorities of these factors can be configured to fine-tune the recommendation results based off workstation types.

Demographic Data

Demographic data, as determined by the agency, can be captured for all calls for service. For example, if data should be recorded for each traffic stop, a traffic stop call cannot be closed until the driver's sex,

race, age, and license number, vehicle information, number of passengers, reason for stop, enforcement action, reason for search, and results of the search (if any) are recorded.

Tow Log

A log is maintained of vehicle tows associated with incidents and of repossession tows. A rotation list of wrecker companies is automatically maintained. Tow companies are automatically added to a rotation list. When a vehicle tow is recorded, the user can select a rotation wrecker or a specific wrecker company.

Power Phone Electronic Medical Dispatch

SmartCOP is a gold certified vendor with APCO and platinum certified for ProQA Emergency Dispatch Software. Our CAD software works seamlessly with third party medical, fire, and police protocol software allowing call takers to perform at the highest standards in the industry. SmartCOP has no problem getting certified with Power Phone EMD.

Mapping and Geographic File Specifications

The incident/dispatch location recorded for a call is flexible. It may include one of the following:

- a street address
- an intersection
- a highway
- a local expressway
- an interstate
- a common landmark

Location and Address Verification:

- Occurs upon entry of the address.
- Address verification can be configured to occur through the tabular geographical file or directly from the actual ESRI mapping data. Call takers may override the geographic verification.
- A list of possible matches is returned when a user enters a partial street name or location, including the cross streets, city and county, and common name or business name.
- Users can run the address verification from the command line.
- Call takers may directly enter incident locations, import incident locations from the E-911 ANI/ALI interface or select a point on the map to create the incident location.
- Plotting the location of an incident on a map. Users can view incident locations at the street level.
- Plotting a unit's location on a map.
- Routing units to particular incidents.
- Displaying directions, travel time and travel distance for any unit/incident route.
- Administrators view the location of all units and incidents on a map in real time.

ESRI-based Mapping Engine:

- Viewable layers and extents are completely configurable.
- Maps can be accessed during all other CAD functions.
- Units and incidents can be centered on the map from the main CAD screen.
- Road closures can be added to the map and displayed to all users viewing the map.
- Road closure information can be broadcast to any and all CAD users.
- Time of travel, calculated directly through the SmartCAD mapping engine, helps determine unit

recommendations.

SmartCAD Screenshots

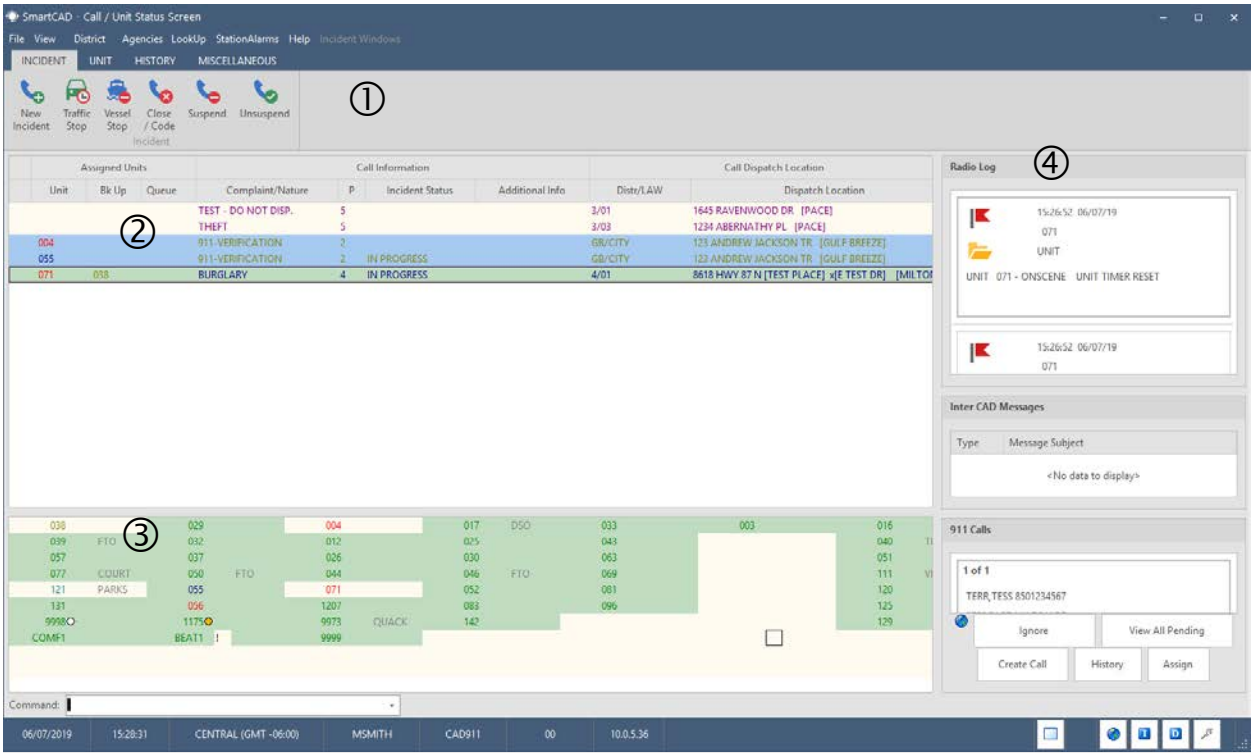


Figure 2-2: SmartCAD Call/Unit Status Screen displays all calls for service, available units, command line, and optional radio log and 911 Feed information. Right-click displays additional options for the task being performed.

(1) The Toolbar may be hidden, if desired. Use the Toolbar for command shortcuts or to open additional windows (i.e. BOLOs, Caution Notes, Watch Orders, etc.)

(2) Calls are color coded to indicate priority and unit status. Right-click to display shortcut menus for calls and units.

(3) Units are color coded to indicate status (enroute, on scene, etc.)

(4) The Radio Log is a transactional-based communication log that displays new and updated call data in CAD.

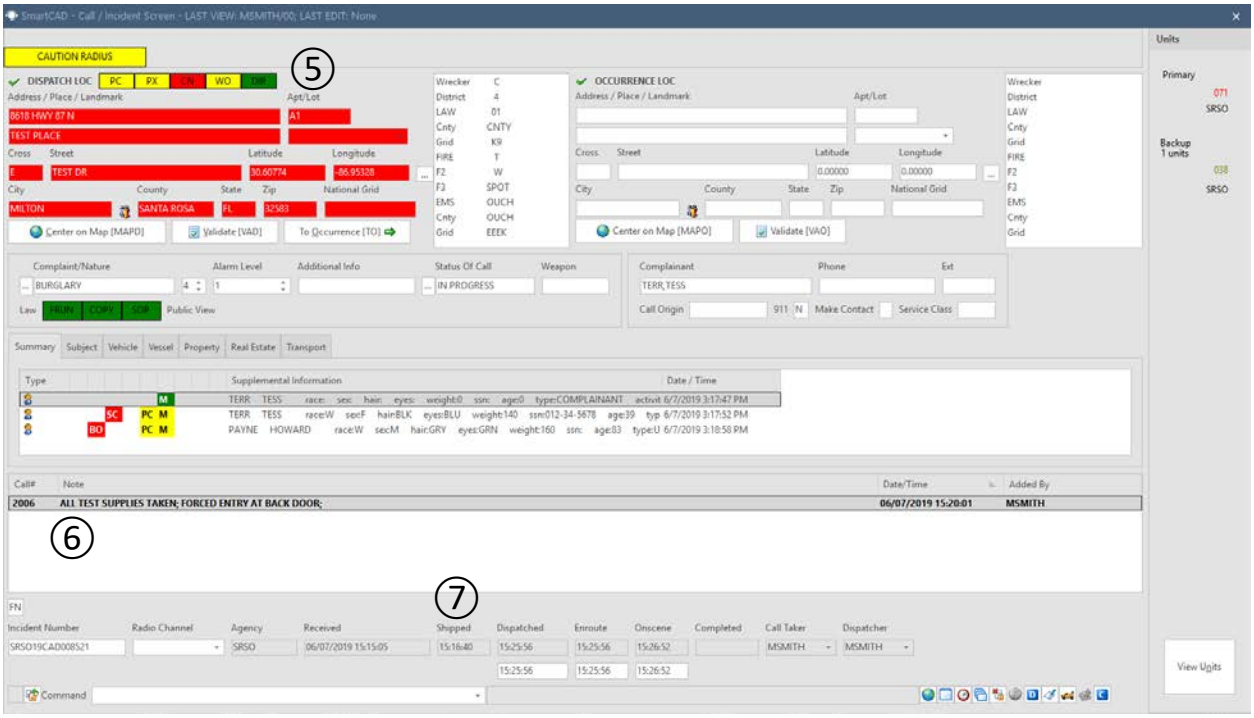


Figure 2-3: SmartCAD Call/Incident Detail contains all the details of the incident.

(5) The SmartCAD Call/Incident Detail contains the details of the incident including the validated dispatch location, occurrence location, complaint nature and complainant information. Once the location is validated, a large number of flags are visually and audibly set to inform the user of any possible officer safety issues. Supplemental information (subject, vehicle, property, real estate) entered is displayed on the summary tab.

(6) The Notes section contains information manually added by the user or automatically generated for certain complaint types, interfaces such as ProQA, and other actions such as cancelling a tow.

(7) Primary, secondary, and backup units are recorded as well as incident number and other pertinent information.

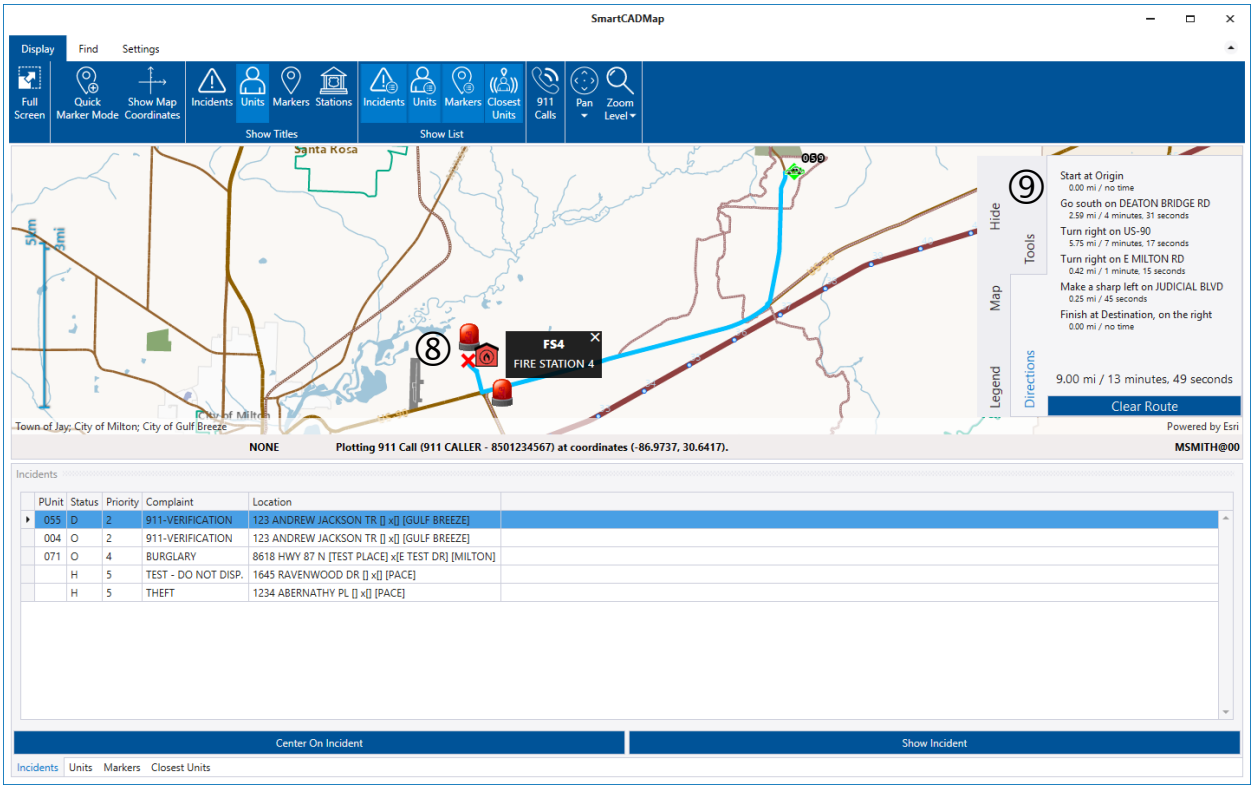


Figure 2-4: SmartCAD ESRI mapping display

(8) The Integrated ESRI Mapping screen displays the route information between a unit and a selected incident. The route is visually represented by the colored line on the map.

(9) Incident information may be displayed below the map, if desired. A panel to the right displays the driving directions, total distance and travel time as well as active incidents and units.

Note: Map Views can be configured in a variety of ways.

2.2 Records Management System

The Records Management system utilizes the latest technologies to provide agencies with a powerful, easy-to-use system. SmartRMS allows agencies to efficiently record, index, store and track information, documents, and files pertaining to law enforcement and emergency response operations.

SmartRMS streamlines records and reporting operations to provide complete accuracy and compliance with state and federal reporting standards. The SmartRMS system enables agencies to transmit statistical reports to both federal and state crime statistics databases, and reporting capabilities allow agencies to query and disseminate information to anyone within the organization.

Centralized records for people, property, places, and related information in a single database enables law enforcement agencies to efficiently manage and track the volume of information received daily. Agencies can customize their SmartCOP RMS system to meet their needs, using the following software modules:

- **Case Management** – This module provides complete online access to comprehensive case files. Case Management facilitates all work of the investigative team, including case tracking, monitoring, and supplement filing. Capabilities of this module include:
    - Lock down access to case files to only those persons authorized for access. Only persons authorized for access can add information.
    - Ability to attach officer-filed reports, scanned images, handwritten statements, recorded interviews, case assignment records and narratives to the case file.
    - Track investigative status (i.e., active/inactive)
    - Easily track leads, resources, tasks, time spent on the case
    - Add case notes and journal entries
    - Create a case timeline
    - Seal/Expunge options are available
    - Import/Export is available
- **Civil Documents/Executions** – The Civil Process module system is a robust and powerful tool to track a document from the court to service attempts and final execution payments. The module is easily adapted to the requirements of each agency through configuration.
    - Track civil papers such as subpoenas, child support, domestic violence, and criminal. Other paper types are available based on agency configuration requirements.
    - Checklist can be added to document types.
    - Assign papers to officers and they can search for those assigned papers from their mobile computer.
    - Log attempts to serve and served papers on mobile computers
    - E-mail is available and can be automatically generated and sent to the person (i.e., State Attorney, Bank, etc.) requesting service.
    - Deputy worksheets and a return for service printout are generated for each paper processed.

- Ledger entries may be assigned to each document type and assessed each time that paper type is created (i.e., Sheriff's Fees).
- Track Writs of Executions to include levies. When an order to levy property is received, a levy is entered on a writ of execution.
- Capture bidders from Sheriff sales and track the top bidders
- Pre-judgment interest can be configured with up to five different rates
- Track all sales including person name, method of payment, etc.
- Statistical reports provide an overview of the civil process.

- **Evidence & Property Management** – The Evidence module (SmartEVIDENCE) is a full-featured evidence management system providing agencies the power to maintain, manage, and track property in one easy-to-use system. The system provides an integrated dashboard feature to view the status of an item instantly. The use of barcode scanners, cameras, label printing, electronic signatures, and bulk action capabilities brings more efficiency and time savings to the evidence custodian. Tasks such as inventories, disposals, and chain of custody tracking is easily accomplished. SmartEVIDENCE integrates to Crash Report, Incident Report, and Arrest/Charge Report to allow grouping of evidence by case number.
- **Master Index (Person, Business, Vehicle, Vessel)** - The Master Index is the repository for all person, business, vehicle, and vessel records used within SmartRMS and links them with other SmartCOP applications. Agencies can create and maintain records for a variety of purposes. Users (including mobile users) can query a person's name and find all related records associated to that person (Incident, Charges, Citations, etc.). The Master Name Index records contain mug shot pictures, addresses, aliases/nicknames, occupation records, vehicle records, and related arrest, and incident reports linked to that person.
- **Field Based Reporting (FBR)** – FBR is SmartCOP's integrated mobile field reporting module that seamlessly operates on a server or offline in remote locations via the disconnected mode. These reports are highly configurable for each agency's unique demands and requirements.
    - Incident Report – SmartCOP's Incident Report provides officers with the ability to create, update, and submit reports easily and efficiently from the field or in the office. With an intuitive interface and extensive workflow configuration options, the Incident Report streamlines the entire reporting process from writing through approval. Incident Report capabilities include:
        - Easily configure and name the report according to agency specifications.
        - Supports online and offline modes so officers can continue to work on reports regardless of connectivity.
        - Incident Reports can be created without the CAD call being closed.
        - Track different incident locations (i.e., arrest made at a different location from the call for service)
        - Create Charge Report from the Incident Report
        - Configure questions to be asked of suspects
        - Add pictures to person records
        - Statements may be entered for each person involved in the incident.
        - UCR/NIBRS data questions visible in one place

        - Capture extensive vehicle information (i.e., seizure, inventory, damage, chain of custody, etc.)
        - Print evidence labels and evidence sheet for all impounded or seized property, vehicle, and vessels
        - E-mail officers their tasks and assigned cases
    - Activity Reports - enables law enforcement officers to report all of their daily activities. The activities of an officer can be tracked automatically and reported. Using this report alleviates the paperwork burden upon officers while providing timely data submissions.
    - Boating Accident Report – meets all Boating Accident Report Database (BARD) standards for recreational boating accidents
    - Charge Report – can configure report name to agency requirements (i.e., Sworn Complaint, Notice to Appear, Warrant Service for Other Agency, etc.), and look up active warrants
    - Citizen Assist
    - Consent to Search
    - Crash Reports (Vehicle & Vessel)
    - Field Intel
    - Local and State Citations (Boating and Resource)
    - Trespass Warnings
    - Use of Force
    - Vehicle and Vessel Tows
    - Vehicle Pursuit
- **Pawn** – The Pawn module allows an agency to enter pawn slip details or import from external sources. Property items are automatically compared to stolen items on incident reports. Each match on a stolen item from an incident report creates a "hit." Intelligence information, such as known burglars and registered felons, pulls from the Master Index. Pawn hits accelerate the recovery of stolen property, identify burglars, and target convicted felons who are selling firearms.
- **Permits and Registration** – The Permits & Registration module tracks licenses and permits issued by an agency and any required registrations. Master Index linking is available for populating person and business information. Other detailed personal information is captured for individuals and locations registering or applying for permits or licenses.
- **Uniform Crime Reporting/NIBRS** – Manages and validates offense and arrest reports for easy creation and submission of crime data to the FBI. UCR/NIBRS data collection is an automatic part of the reporting process. **IMPORTANT**: SmartCOP is compliant with Georgia NIBRS.
- **Wants & Warrants** – The Wants & Warrants module tracks various types of arrest and bench warrants issued by the court to law enforcement agencies.
    - Paper types and statuses are configurable for each agency.
    - Import warrant affidavits from mobile computers, thereby reducing data entry.

- Capture offender probation information (i.e., probation officer name, date of probation and probation expiration).

2.3 SmartMOBILE

The Mobile Computer Terminal (MCT) provides officers access to data from the vehicle, including State/NCIC interface, paging, e-mail, records management interfaces, live CAD-in-the-car, report review/approval, and other customizable interfaces. The MCT also tracks officer location with AVL.

Real-time CAD options include self-dispatching, traffic stop call creation, and demographic data collection. Rather than limiting officers to query submission, the MCT provides access to the entire system, transforming each vehicle into a virtual office.

Working in conjunction with SmartCAD, the MCT gives officers the advantage of seeing live CAD in their patrol cars. This allows them to respond faster - before their actions are broadcast on radios, which can be overheard by the general public.

Messages Screen

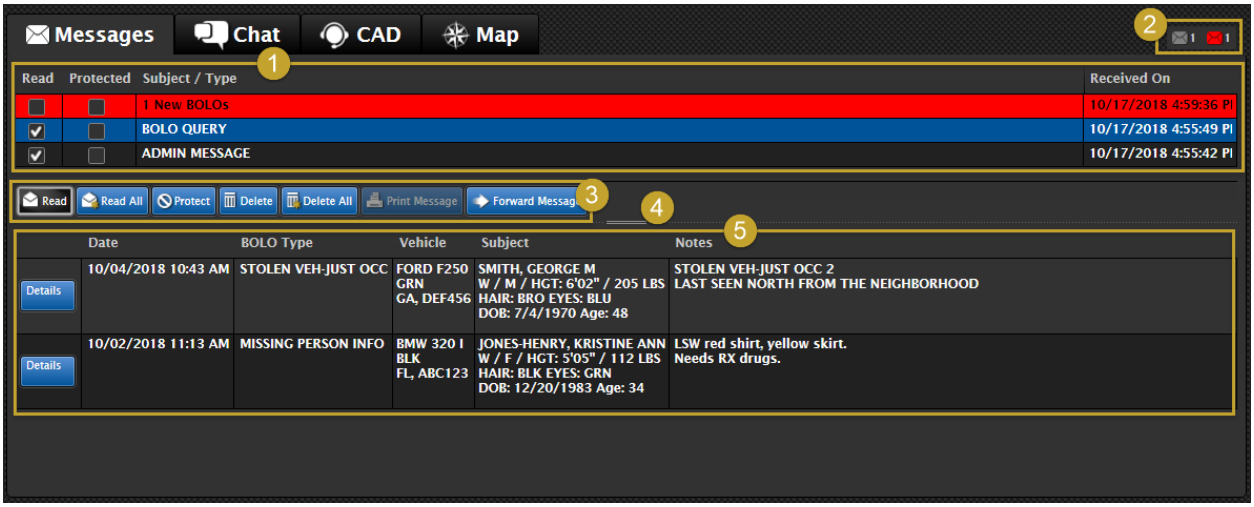
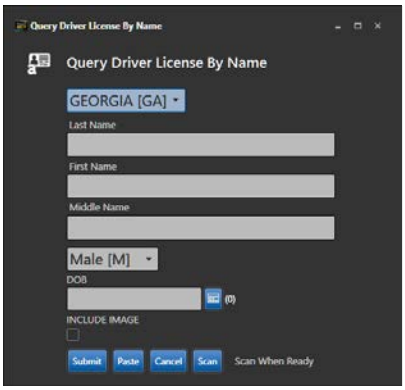


Figure 2-5: SmartMCT Messages screen
1 – Messages List
2 – Messages Counter
3 – Message Functions
4 – Divider Slide
5 – Reading Pane

Query Driver License Screen



A number of queries and lookups available from the MCT provide results that can be pasted into a report or citation. Any state driver's license with a magnetic strip may be scanned. Touch screen buttons give officers instant access to reports, paging, and e-mail, and allows them to run tags, licenses and VINs in seconds.

Figure 2-6: SmartMCT Query Driver License screen

Mobile CAD and MAP Screen

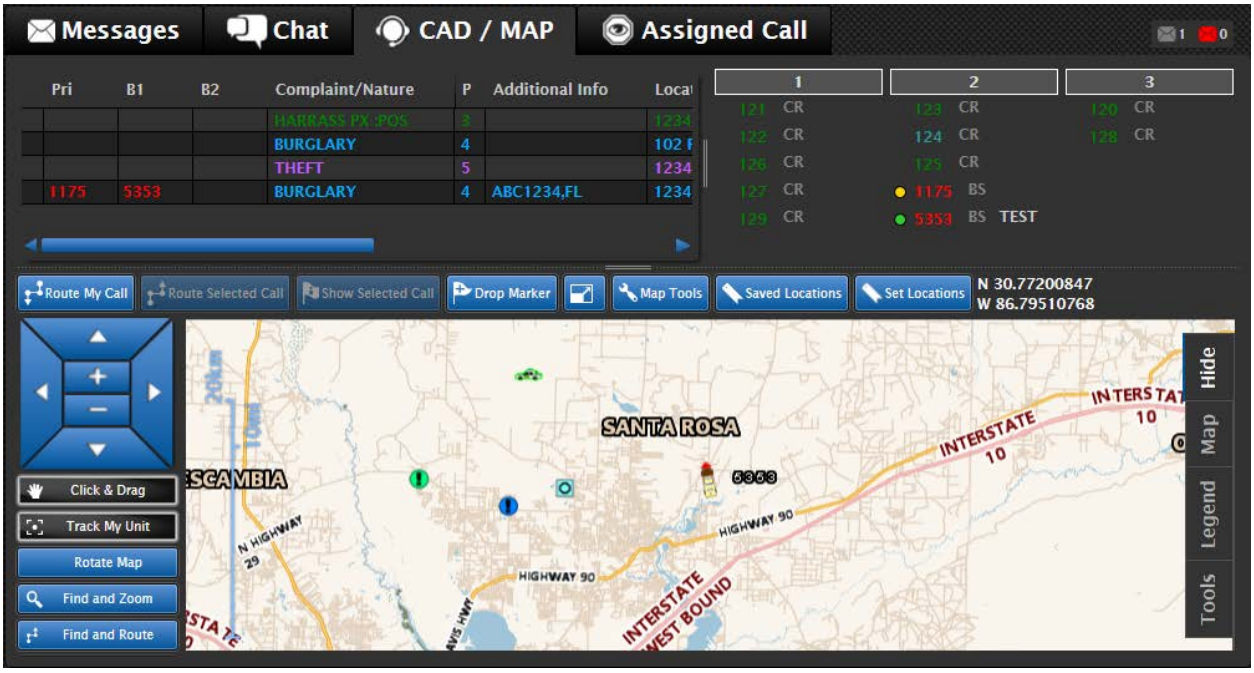


Figure 2-7: The MCT's unique live CAD-in-the car feature provides officers with real-time updates to incidents and units. Officers view incidents and unit statuses in real-time. The mapping may be displayed by itself or combined with the CAD calls as shown above. Individual users may configure maps according to personal preference. The user settings may then be saved and shared with others.

2.4 Administrative Modules

SmartADMIN is a family of applications that enable centralized configuration, access management, and recordkeeping for the most common administrative support functions. This application acts as the dashboard and reporting tools for SmartCOP software in regard to data analytics, employee and company property information, and public access to data collected. SmartADMIN consists of the following modules:

- **Employee Master File** – Used for personnel management, the Employee Master File tracks, records personnel information, and plays an integral role in the entire suite. All applications use information from the Employee Master File to assign officer to reports and other records and to identify personnel and equipment. In addition, security profiles for each employee are created in this application. Paging and ID Cards are also supported in the Employee Master File.
- **Issued Property Management** – Functions as a complete quartermaster program that records and manages information about equipment used by an agency. The system generates a unique identifying number for each item. Purchase and warranty information, inspection, expiration, and unit or employee assignment can be recorded for each item. Employee Master File records are used when assigning equipment to specific employees.
- **Fleet Management** – Records and manages information about every vehicle used by an agency. New and used fleet vehicles, including purchase/warranty information, scheduled maintenance, fuel purchases, and equipment assigned to a vehicle are recorded here. The person or unit to which a vehicle is assigned is also tracked.
- **Employee Training** – Tracks and records information about employee training, educational background, certification, and experience. Training records are maintained to ensure agency employees remain current in their training requirements.
- **Subpoena Tracking** – This module is an integrated tracking system providing information to the officer who must appear in court. This application simplifies the process of WHO, WHAT, WHEN, and WHERE of the subpoena process. With the Subpoena Log, agencies can receive, track, and report on subpoenas by date received, defendant name, recipient name, court case number, agency location, received location, recipient notified, notification method, and appearance disposition.
- **SmartDATA** – An indispensable dashboard analytic tool used by agency supervisors, analysts, and command staff to manage and extract critical data that public safety agencies use every day. Map-based information is provided and enables command staff to quickly make informed decisions about where to focus personnel and other resources. The single data entry format allows agency personnel to access their entire database in one search and utilize all relevant records. Data is represented in a grid, graphical display (pie charts, graphs, etc.) and multi-layer maps. Data can be printed, exported (.xls, .xlsv, .csv, .txt, .html, .xml) or mapped.

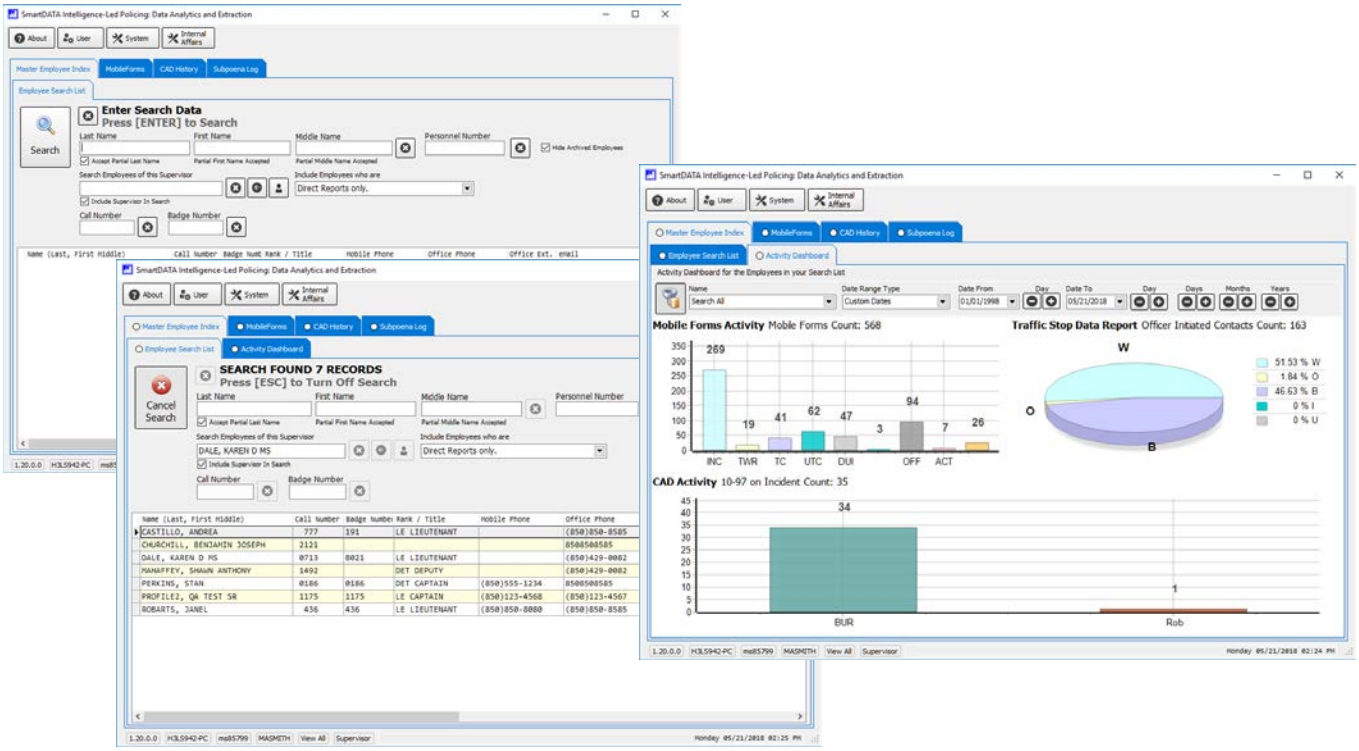


Figure 2-7: SmartDATA provides data analytics and extraction in easy to use format.

- **SmartWEB** – SmartWEB is an optional component of the Administrative modules. It is an internet-based public access portal providing the public with instant web access to live records such as CAD, Active Want/Warrant data, and Jail Booking. An Incident Reporting module is also included allowing the public to report the non-emergency crime to the agency. The agency configures the crime types allowed to be reported by citizens.

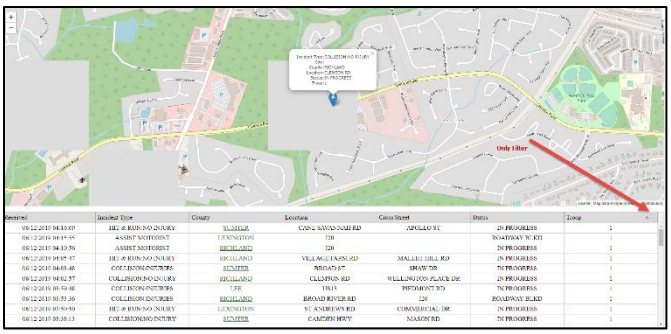


Figure 2-8: Use SmartWEB to view active CAD incidents on a map..

Cognizant of security requirements and information privacy mandates, SmartWEB is configurable concerning the data viewable from the public portion of the site. From the private side, additional details, reports, history, and the supervisory information is accessed via secure login from the public site, allowing only those valid users to view detail call information.

2.5 Fire Module (Records Management and Mobile)

SmartCOP does not currently have a Fire Records Management system. However, SmartCOP interfaces to all major Fire Records Management modules making it a seamless process.

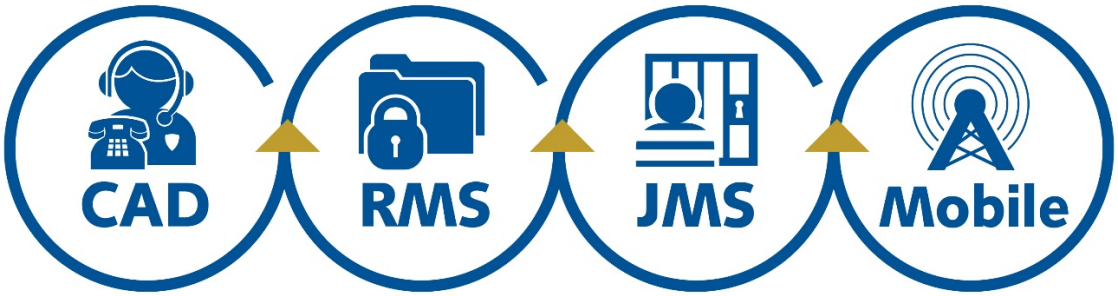
3 System Configurability

SmartCOP's proposed solution is built on the industry standard Microsoft foundation; which includes Microsoft .NET framework, SQL server database, Windows Server and virtualization for easy system administration. It is highly configurable, readily integrates with external systems, easily maintained and functionally comprehensive, yet extremely intuitive to the user.

The system utilizes a common application server and a single SQL database for complete integration across all software modules.

Additionally, each individual system can run as a standalone system and integrate with external systems using industry standard data sharing and custom developed interfaces providing seamless interoperability on the local, state, and federal levels.

Our choice of SQL Server enables mission critical confidence for the customer through greater up time, record search and retrieval times, enhanced security features, and true openness.



SmartCOP provides operational training on system orientation and familiarization, including user-configurable settings and preferences. During the system administrator training, we assist with configuration of pick lists, drop down menus, and other preferences throughout the system. Extensive configuration options are available for users to personalize their workspace and preferences.

4 Security

4.1 CJIS Security Policy Compliance

SmartCOP has extensive experience in developing secure integrated software systems for state and federal agencies. The SmartRMS and SmartMOBILE products are designed to meet the highest security policies through the latest security protocols and best practices.

Security is of paramount importance to your RMS and Mobile solution. Data cannot be made available to users unless it is protected from unauthorized access. Privacy laws and federal, state, and county agency policies require access to be limited to authorized personnel for specific criminal justice uses. Moreover, user authorizations must be limited to the data appropriate to the user's role.

SmartCOP conforms to the FBI/CJIS Security Policy requirements for access to criminal justice information by requiring each user accessing the system to have a unique username and strong, encrypted password, which must be changed on a periodic basis.

4.2 Application Security

SmartCOP is a permission-based system whereby system users are required to have a username and password, providing access control at the application and data level. The username is linked to a security profile that determines what information a user can view, edit, add, and delete, and what reports a user can print. The system administrator has full control of what a user can and cannot do in the system.

Additionally, the customer has the option to integrate desktop application access into Windows Active Directory, allowing for a single login to provide application access authentication.

The proposed solution does not allow login names and passwords to be saved or remembered at login. Embedded scripts or hard-coded passwords are not used.

One security right does allow users to change their own password from the applications. If granted security permission rights to do so, users can select the option to modify their password. To establish this change, they must enter the current password, new password, and validate the new password. Passwords are encrypted, alpha/numeric and must be unique.

Role based access is available and controls user permissions for the agency defined roles. For example, agencies can determine permission settings for resource officers in general. The agency decides what permissions a resource officer will be given and can then apply that "role" to any new user that needs those permissions thus eliminating the need to configure individual permissions for each user.

4.3 Report Security

Safeguards are automatically included to prevent unauthorized modification of data on the forms. Completed reports are available for review by the reporting officer, responsible supervisor(s), and other designated persons granted proper security to access reports.

5 Project Management and Implementation Services

SmartCOP's Project Management team is experienced in the design and implementation of complex systems. We focus on what is specifically relevant to the agency's needs and requirements. A Project Manager is assigned to supervise the entire project and act as the single point of contact throughout the implementation to ensure the project is a success. Every effort is made to resolve open issues quickly and efficiently. Strict adherence to the project plan is followed to ensure all deliverables and milestones are reached in a timely manner.

A typical installation of a system similar to what Chatham County requires is 6 - 9 months, which includes data conversion and associated interfaces. With our extensive project management tools, processes, and technologies, we control each facet of the implementation carefully. The following tools are used to manage the project:

Director of Project Implementation

- Provides project oversight
- Handles issues and risk escalation
- Facilitates project escalations, as needed

Project Planning

- Provides detailed scope plan, project plan, and timeline management
- Tracks milestones and durations
- Creates and manages the project communication plan
- Documents personnel assignment and task ownership
- Provides status reports
- Analyzes project risks
- Assures project completion

Issue Log and Resolution Tracking

- Formal tool for opening, assigning, tracking, and closing issues

Change Management Documentation

- Formal process for requesting changes
- Requires approvals and signoff
- Documents material changes to solution, timeline, and project scope

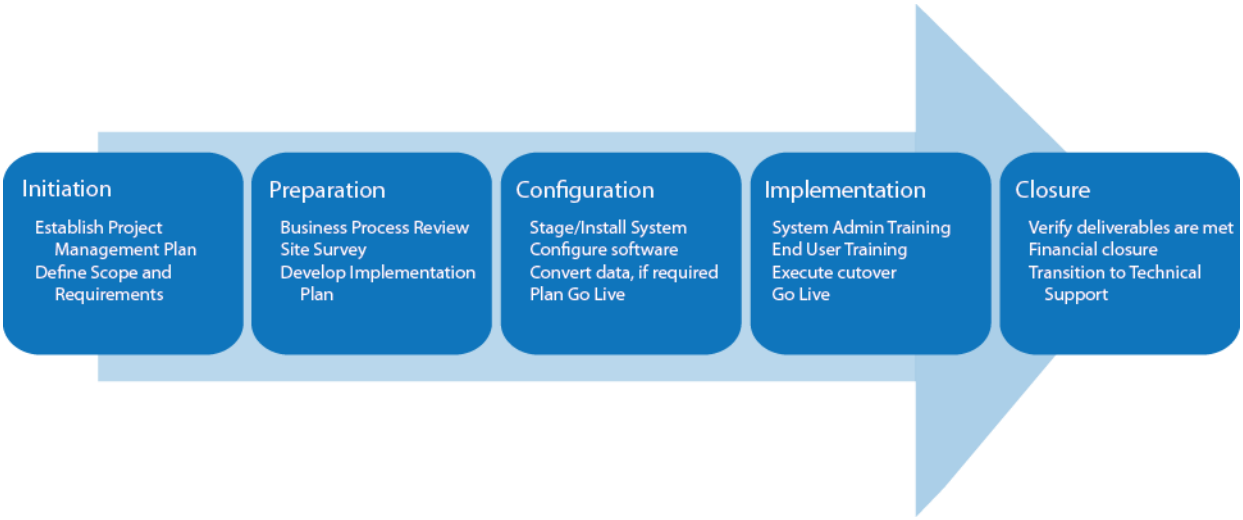
Risk Management

Systematically identify and track risks and issues**.** SmartCOP will work closely with the agency to tailor this methodology for your unique requirements.

5.1 Project Management Approach and Methodology

SmartCOP's project methodology focuses on utilizing defined industry and program management best practices. The methods are process-based and activity-based and include key roles based on the Project Management Body of Knowledge (PMBOK) and the System Development Life Cycle (SDLC).

The implementation methodology consists of the following five phases:



Phase 1: The Project Initiation Phase

During this phase of the project goals are set, constraints are identified, and the project teams are put in place. Specific information about your agency that was learned and gathered during the sales cycle will be used as a basis for the activities during this initial and important phase as it will serve as the foundation for the remainder of the project. Specific activities include:

- Establish the project management plan
- Identify key stakeholder and project team members and their relevant roles
- Establish program governance and steering team
- Establish change management and approval process
- Establish risk and issue management process
- Establish communication process and tool
- Define Scope and Contractual Requirements
- Review project scope and contract deliverables/milestones
- Review and discuss program phasing and preliminary schedule
- Discuss internal and external dependencies and limitations
- Conduct risk assessment and develop preliminary risk profile
- Develop mitigation plan and establish critical success factors

Phase 2: The Preparation/Planning Phase

During this phase, our team works together with the agency to document the scope of the project and create a list of implementation tasks necessary for project success. Steps included in this phase are:

- Hold Project Kickoff Meeting
- Conduct Business Process Review (BPR) sessions — to assess and document your operational requirements
- Collect and prepare data
- Develop blueprint for data setup and operational workflow
- Identify and define customizations, if applicable
- Conduct physical site surveys
- Hold system design review to ensure architecture and system components are mapped out and consistent with the network and functional requirements

Phase 3: The Configuration/Execution Phase

- Stage and install hardware and software
- Configure remote connectivity
- Establish and review backup procedures
- Convert data from legacy applications
- Configure software
- Implement change management processes
- Plan the go-live and cutover process

Phase 4: The Implementation Phase

This phase occurs in conjunction with the Configuration Phase and consists of constant monitoring by SmartCOP's Project Manager. Some specific tasks of this phase include:

- Monitor and update the project plan
- Ensure quality communication
- Conduct status meetings and provide status reports
- Identify any project-related issues and find resolutions
- Document project change requests
- Train system administrators
- Train end users
- Execute the cutover and go live

Phase 5: The Closing Phase

The final phase of the project occurs when all tasks are finished, and the project is complete. An important element of this phase is the conclusion of services by the Implementation Team and the transition of ongoing client support to our Technical Support Team.

- Final review of tasks and verify all deliverables are met
- High-speed connectivity validation for support purposes
- Turnover meeting to Technical Support
- Client care relationship begins

5.2 Project Plan

A project plan that outlines project tasks and timelines will be created with the issuance of a RFP and specific requirements are identified. Upon contract award, a definitive project plan will be created with the appropriate project start date.

5.3 User Acceptance Testing

User acceptance testing is a critical part of the software development lifecycle. SmartCOP approaches system testing and user acceptance as a joint venture with the customer to ensure satisfaction and successful implementation. User acceptance testing is often the final step in any successful system implementation and is done to ensure that system requirements meet business needs.

The team works together to formulate a plan to test the data conversion, each software module, and interface to ensure they meet the customer's requirements. Testing activities occur throughout the implementation project.

SmartCOP will train the customer how to use the software prior to user acceptance testing. The customer will be responsible for conducting the testing, documenting the results, and providing feedback to SmartCOP so that any issues identified can be addressed and corrected before the system goes live.

5.4 Data Conversion

Data conversion/migration serves a vital part of the transition to the SmartCOP product suite. Our specialized team of Database Administrators perform all data conversions in-house. Custom SQL scripts are built for each customer conversion.

We have successfully converted from many and varied CAD, RMS, and Corrections Management systems, including USA Software, TRACS, OSSI, Global, Interact, MDS, and TAG Application System, as well as several smaller vendors and numerous homegrown systems.

SmartCOP works closely with the agency to conduct complete data mapping from the current legacy system to the SmartCOP system. During the data mapping phase, all elements that need to be converted are identified and then mapped to their respective fields in the SmartCOP system. All converted data is then submitted to the agency prior to final conversion for customer validation. Any re-work identified during the validation process will be completed before the final conversions.

As part of this process, the agency assumes sole responsibility for providing SmartCOP with all data or other information necessary to develop a data conversion plan and perform the conversion. The accuracy, completeness, adequacy and timeliness of the data and/or information provided shall be the sole responsibility of the agency. SmartCOP shall have no duty whatsoever to verify, test or review any data and/or information provided the data can feasibly be converted in the SmartCOP applications as outlined in the data conversion plan. The verification and testing of the accuracy and completeness of the converted data and/or information shall be the sole responsibility of the agency.

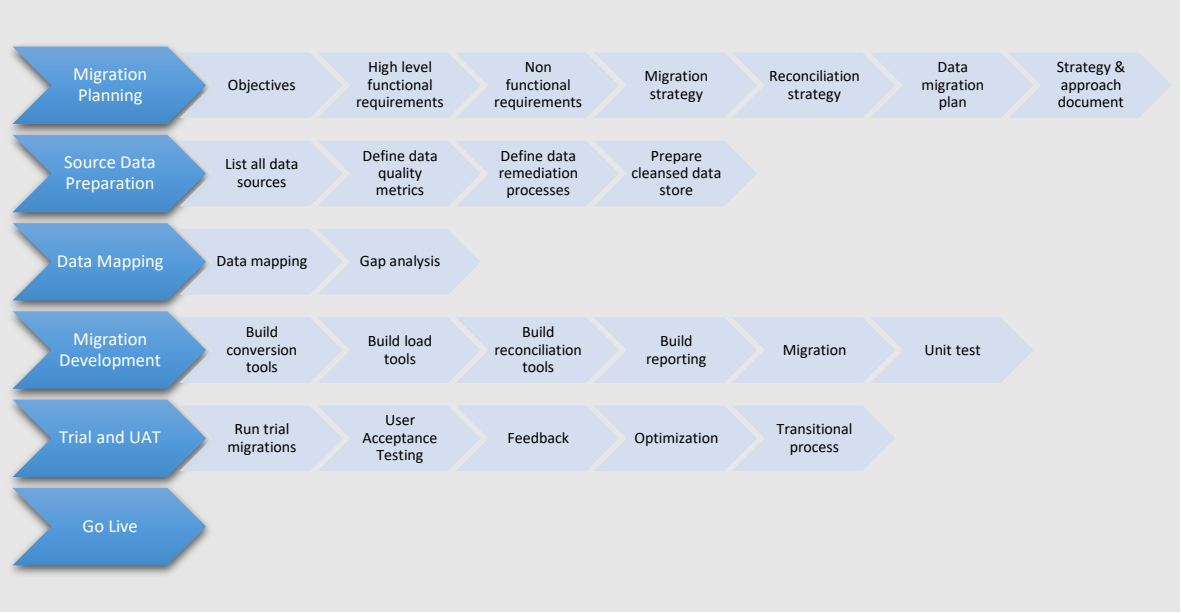


Figure 5-9: Data Migration Approach

Migration Planning

- Data conversion begins with our personnel working with the agency point of contact to identify all the elements to convert as well as an acquisition of a database diagram and entity relationship diagram.
- The amount of legacy data that can be migrated is determined by the agency. We caution the agency on the impact that converting all legacy data has on space requirements. We look at the size of the data being converted and provide the customer with the estimated space required to hold the converted data and future growth. We do not want the agency maxing out hard drive space within a short period of time of going live on the SmartCOP system.

Source Data Preparation

- SmartCOP engineers map out where we believe the data should be placed in the database structure.
- Agency performs backup/extraction of the data from legacy system and provides to SmartCOP.
- Engineers generate custom SQL scripts to perform the migration of data from one system to another.

Data Mapping

- While data mapping occurs, our implementation staff will install the software on a validation server within the agency. It will be utilized by the client to verify data is appearing in the correct locations.

Migration Development

- During the actual conversion, we convert the legacy data from a copy of the legacy database or export to an acceptable format in order to convert. Initially, to protect the legacy data and ensure it is converted properly, we go through several rounds of validation. During validation, the customer identifies reports, of their choosing, from the legacy system and compare those reports

in the SmartCOP system to ensure proper conversion. We also provide a mapping document that provides a table to table mapping of the data from the legacy system to the SmartCOP system.
- SmartCOP will run a unit test migration of the data (or a representative portion depending on size).

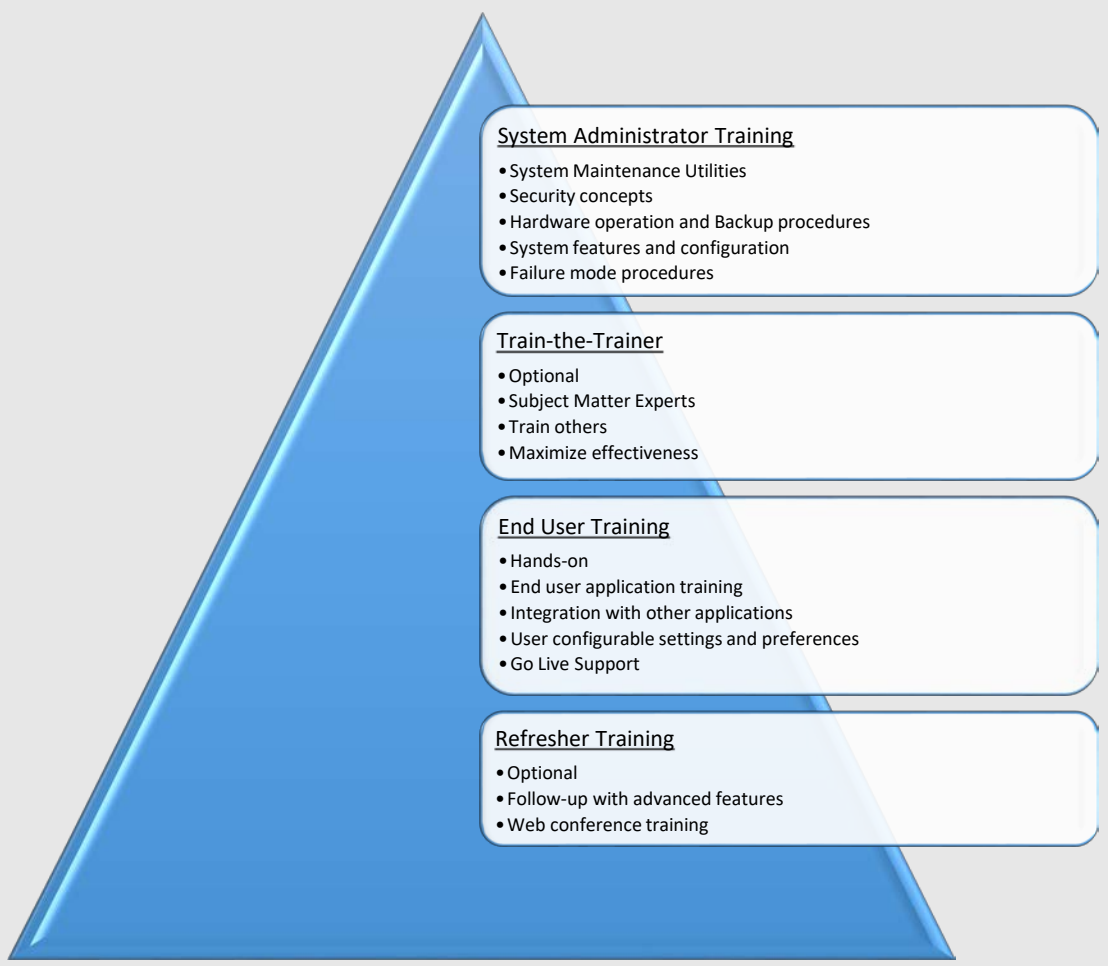
Trial and User Acceptance Testing

- Client representative will review converted data in a side-by-side comparison between legacy and new system.
- SmartCOP adjusts the transformation scripts and reruns the conversion.
- Client again reviews conversion and provides comments.
- Process is repeated until client agrees the data has been mapped and migrated properly.

Go Live

- The scheduling of the final conversion of data is based on client need and applicability in the go live process.

6 Training Services



6.1 Training Methodology

Professional training is one of the largest contributors to successful implementation. An effective and accurate training plan ensures that your staff will have all the tools they need to be successful with the new solution. This is why SmartCOP works with each agency to develop a comprehensive training plan for the proposed solution. We understand that each individual has different levels of experience and expertise, therefore we tailor each training plan to meet the needs of your users and administrators. We appreciate the importance of your mission at Chatham County and want to make sure you are prepared.

Each trainer is an experienced law enforcement instructor and current user of the specific software product and responsible for the effectiveness and administration of the training. Each trainer's experience as a daily end-user of the SmartCOP system in their respective agency allows them to provide real-world expertise in the classroom.

SmartCOP offers hands-on training for every customer agency with a choice of formats, including complete end-user training and train-the-trainer. We work with each agency to enhance and refine our standard training formats to accommodate specific needs.

6.2 System Administrator Training

This training provides system administrators the information needed to configure the SmartCOP system, setting up and maintaining code tables, security concepts, managing users, granting user access privileges, backup procedures, and failure mode procedures. This training is limited to no more than ten (10) participants.

6.3 End User Training

End-user training prepares users for the new software system and is relevant to each user's position. The training will include the following:

- Functional user training on each application (system operation)
- Operational training on system orientation and familiarization, including user-configurable settings and preferences
- Application software features and integration with other applications

Training is hands-on in a classroom style setting and completed prior to Go Live of the system. Core application training is conducted from either a training server established by the agency or the operational server networked to the computer lab environment specified for training.

Training is based on real-life utilization of the systems being taught. The trainers incorporate authentic life experiences and scenarios during instruction to enhance the training experience.

Individuals that require training include call takers, dispatchers, officers, evidence custodians, records clerks, civil personnel, corrections staff, mobile users, and supervisors.

Go Live support is provided for a smooth transition to the new software environment.

6.4 Train-the-Trainer Training (optional)

The train-the-trainer format is conducted for a small, selected group of users, and many times these trainers are agency-certified. This training is normally more in-depth than end-user training so that your trainers will be prepared to conduct training and assist others once the system is live. SmartCOP trainers are certified on the software and have the knowledge to successfully train other members of the agency.

6.5 Refresher Training

SmartCOP provides continued training and training assistance to agencies after implementation. Optional training sessions may be structured at fixed periods after implementation; for instance, "refresher" or "expert" training 90-days after initial Go Live. This optional refresher training is an abbreviated instruction covering functionality and user commands to enable the user to become comfortable using the new system. Refresher training is normally provided via a web conference with our client success team.

Expert (advanced) user training is also available for those users ready to take their software knowledge to the next level. It provides more detailed functionality and system capability.

SmartCOP also provides release bulletins that define changes or enhancements to the affected products. We offer online web-based training and additional on-site user training for advanced product functionality. Additional training must be mutually agreed upon and is based on pre-defined or negotiated contractual obligations.

7 Support, Maintenance and Warranty Services

7.1 Support

SmartCOP provides toll-free, technical support 24 hours a day, seven days a week, including holidays.

There are three basic levels of support offered by SmartCOP, as described below. In addition to the basic levels, we offer e-mail support (support@smartcop.com) capability so questions that require supporting documentation can be communicated immediately.

Tier 1 Support

- General questions
- Basic training
- Configuration questions

Tier 1 support includes the following Help Desk capabilities:

- Fielding all end-user requests for assistance
- Creating service requests or trouble tickets for tracking an issue from the initial report through closure
- Identification of the source of the issue
- Referring issues to a second-level support group, third-party providers, or in-house application development for resolution
- Maintaining a database of problems and resolutions used to resolve future issues

Tier 2 Support

- Advanced issues which Tier 1 could not resolve, such as:
  - Application errors
  - Table errors
  - Networking issues
  - System lock up or failure

  Only authorized support technicians, such as IT staff, should have access to Tier 2 support services (end-user calls will be handled by the Tier 1 help desk as described above). When a call is received, a call taker works with the agency to immediately resolve errors using our knowledge base of resolutions. When such resolution is not possible, the call is escalated to Tier 3 Support.

Tier 3 Support

- Advanced issues where it becomes necessary to involve senior engineers or database administrators, such as:
  - Officer safety
  - Communications failure
  - Incorrect data or information returned to MDC users

  With Tier 3 Support, SmartCOP's lead engineer determines the severity of the call and assigns it to the appropriate engineer for resolution. When the call is completed, the engineer notifies the support desk of the solution and notes the solution in the knowledge base. The agency is then notified as to resolution and any instructions for correcting the problem.

In the event of a system failure, efforts to bring the system online using telephone support are attempted. Further efforts toward resolution using remote access connectivity are then used. As a last resort, SmartCOP staff arrives on-site within 24 hours to assist with bringing the system back online.

SmartCOP also provides continued training and training assistance to customer agencies after implementation. To accomplish this, SmartCOP provides release bulletins or training bulletins that define changes or enhancements to the affected products. We offer online web-based training and additional on-site user training for advanced product functionality. Additional training must be mutually agreed upon and is based on pre-defined or negotiated contractual obligations.

User Groups

SmartCOP maintains an active user's group website for interaction with users on topics such as software enhancements, business rules, support related services, and report sharing. It is through constant communication and relationships with users that SmartCOP maintains pro-active initiatives.

Our website, www.smartcop.com includes a user's area with interactive forums, access to training videos, information about upcoming releases, and technical and user documentation for download. This area is available only to SmartCOP customers.

Troubleshooting

Some issues may require troubleshooting to determine if the issue can be duplicated on our in-house test environment or to correct configuration problems. In order to troubleshoot remotely, it becomes necessary for SmartCOP to access the agency network server or the SQL database either through a VPN connection or by using another remote connectivity tool. A VPN connection uses end-to-end encryption to carve out a private tunnel over the public network. Remote connectivity tools provide a safe environment for remote network management and support to allow SmartCOP to connect to the server. Ultimately, it is the agency's decision on how a vendor connects to their network.

SmartCOP does not create, modify, or delete existing agency data without the express written consent of the agency. Our goal is to minimize the impact caused by accessing the customer's live environment, so access is limited to only when necessary to address a reported issue. Information such as IP addresses, usernames, and passwords are stored internally in a database that can only be accessed by personnel that are required to access the customer's system.

7.2 Maintenance and Warranty

SmartCOP software is warranted to be without defect(s) as long as the agency has a Maintenance and Support Agreement in effect. If the software does not perform as warranted, we will use all reasonable efforts, consistent with industry standards, to correct the defect as set forth in the Maintenance and Support Agreement.

Warranty, maintenance and support services are available for a period of one year following the first use of the software product in a production environment (Go Live). The agency can extend the maintenance and support services on an annual basis, for a period of up to five years, by paying an agreed upon annual fee due in advance of each renewal period.

Updates and Enhancements

All SmartCOP customers receive newly released versions of our software at NO additional cost provided the annual Maintenance and Support Agreement is in effect. SmartCOP's Maintenance and Support Agreement enables customer agencies to take full advantage of continually improving technology for the

lifetime of the partnership. Software updates, enhancements, and maintenance are included with the agreement.

SmartCOP makes every effort to deliver all enhancements and updates in a way that does not impose on the agency's ability to serve the public. We coordinate all software updates with the agency's designated point of contact person, working together to minimize downtime (if any). We notify the agency well ahead of any update or interruption in service and provide necessary post-update support.

Modifications and Customizations

SmartCOP provides a Commercial Off-the-Shelf (COTS) product that is highly configurable. Because of the extensive configuration options in our software, most customization requests are easily accommodated through configuration. However, we realize there are times when enhancements are required.

SmartCOP is constantly improving and enhancing our software applications, largely based on input from our existing customers and evolving technological advances. Our product development team reviews each request for modification/customization to determine the benefit to our users. If a request will benefit a majority of SmartCOP users, we prioritize based on existing requests, and workload the development. Custom modifications and enhancements made to the software are then incorporated into the standard product once completed.

SmartCOP employs specialists who research market trends, technology, and industry needs. This approach ensures that our customers participate in the evolution of our software. We make every effort to incorporate user feedback into our product development. We want our customer agencies to always have access to cutting-edge technology.

If an agency has a unique request for modification/customization that only benefits their agency, SmartCOP will provide a cost estimate to perform the development.

8 Technical Architecture

8.1 Overall Technical Capability

The proposed SmartCOP system architecture is SQL based and requires SQL Server 2012 or above and the associated SQL client access licenses.

SmartCOP applications are Windows-based applications and require client workstations to be running Windows 7 or above.

The primary system components can be configured with fault-tolerant hardware components (i.e., processor, memory, network interfaces, power supplies, etc.) to eliminate/reduce single points of failure.

8.2 Product Core Technology

SmartCOP's Public Safety Software Suite is a client-server application suite designed for native Windows environments. The applications are written in various Microsoft development languages including .NET.

The system utilizes a fully integrated SQL Server database for data sharing throughout the system. SmartCOP currently supports SQL Server 2016 relational database management system with backward compatibility to SQL Server 2012. Client operating system support includes Windows 7 and Windows 10 support. All network communications utilize the TCP/IP and UDP network protocols.

SmartCOP uses only Microsoft's SQL Server Relational Database Management System. Our solution is deployed as a single SQL instance, utilizing multiple databases within that instance to store and manipulate data using a highly efficient, true three-tiered architecture.

8.3 Integration Strategies and Options

SmartCOP's proposed solution is a highly configurable and fully integrated application suite. The system utilizes a common application server and a single SQL database for complete integration across all software modules.

Additionally, each individual system can run as a standalone system and integrate with external systems using industry standard data sharing and custom developed interfaces providing seamless interoperability on the local, state, and federal levels.

Our choice of SQL Server enables mission critical confidence for the Agency through greater up time, record search and retrieval times, enhanced security features, and true openness.

8.4 Minimum Hardware Requirements

IMPORTANT: Please consult your SmartCOP representative before making any hardware purchases. There are many agency-specific factors influencing hardware requirements. Keep in mind these are our MINIMUM hardware requirements.

SmartCOP, Inc. is NOT responsible for the use of its hardware recommendations and is only provided as a guide. SmartCOP, in good faith, provides recommended minimum hardware specifications based on customers' use of the software. This is the best information we have at the time provided. Recommendations may change as the market and hardware capabilities change. The agency should work

closely with the selected hardware vendor to make sure hardware purchased meets the load requirements of the agency.

Database Server (CAD/RMS SQL)

- Dual Intel Xeon Processors (Dual +3.6GHz or Quad Core +3.2GHz) or HIGHER
- 32GB RAM DDR3 or GREATER
- Minimum drive speeds of 10K SAS
- Minimum RAID 5 configuration for data w/1 TB usable dedicated storage space for SQL data
- Recommend Server 2016 standard or minimum server 2012 Server R2 Enterprise Edition. OS should include the Required Number of Client Access Licenses to include SmartCOP access
- Dual 1GbE NIC
- Remote access configured for SmartCOP support technicians
- Recommend SQL 2014 (64bit) Standard version
- Battery Backup System (UPS)
- High Availability solution

Database Backups

- A minimum of 1TB separate storage device for SQL backups, should not use local server storage or share with production storage.
- Backup Software (Recommend consulting with SmartCOP prior to the purchase of any backup software)

***Requirement** - Only SQL Server to run on this device (No DNS, Exchange, Domain Controller, etc.)*

Application Web Services Server (MCT/RMS/CAD)

- 3.2GHz Intel Xeon Dual Core Processor or HIGHER
- 16GB RAM DDR3 or GREATER
- 150GB Available Hard Drive or GREATER
- Recommend Server 2016 standard or minimum server 2012 Server standard
- Microsoft IIS 7 or above
- 1GbE NIC
- Remote Access for SmartCOP
- Battery Backup System (UPS)

Agencies with more than 100 personnel per shift may require additional resources – As with all recommended specs, please contact your SmartCOP Rep before making any purchases

Remote Access Server

- 3.2GHz Intel Xeon Dual Core Processor or HIGHER
- 16GB RAM DDR3 or GREATER
- 200GB Available Hard Drive Space or GREATER

Recommend Server 2016 standard or minimum server 2012 Server standard Server Enterprise edition. OS should include the Required Number of Client Access Licenses

- 1GbE NIC
- Battery Backup System (UPS)

**Required if providing Terminal Services access to remote office locations.*

Web Server(s)

- 3.2GHz Intel Xeon Dual Core Processor or HIGHER
- 16GB RAM DDR3 or HIGHER
- 100GB Available Hard Drive
- Recommend Server 2016 standard or minimum server 2012 Server standard
- Microsoft IIS 7
- 2 1GbE NIC- 1 for external and Internal traffic
- Remote Access for SmartCOP
- Battery Backup System (UPS)

Depending on State Security Policy, SmartShare and SmartWEB may have to be placed on separate servers.

SmartMCT Laptops (Recommended Minimum Configuration)

- Intel core i5 4th Gen or GREATER
- 16GB RAM DDR3 (8GB dedicated to SmartCOP Apps) or GREATER
- 256 GB Solid State Hard Drive Space or GREATER
- Windows 7 Enterprise or Windows 10 Enterprise
- Dedicated graphics card, not an onboard graphics card with a **minimum** of 256MB Video RAM; 1GB Video RAM or higher recommended NVIDIA, ATI, or Intel Chipset with latest drivers
- OpenGL 2.0 runtime minimum and Shader Model 3.0 recommended
- Minimum Monitor Resolution 1280x720
- Anti-Glare Screen
- Touch Screen
- "4G" Broadband Mobile data connectivity (AT&T, Verizon, etc.)
- Dedicated non-aircard GPS capability
- Vehicle Mount Equipment
- Vehicle Power Adapter
- Mobile MagStripe/Barcode Reader (See peripheral equipment list below)

SmartMCT Supported Tablets

- Microsoft Surface 3 or Surface 4
- Intel core i5 4th Gen or GREATER
- 16GB RAM DDR3 (8Gb dedicated to SmartCOP Apps) or GREATER
- 256 GB Solid State Hard Drive Space or GREATER
- Windows 7 Enterprise or Windows 10 Enterprise
- Dedicated non-air card GPS capability

- "4G" Broadband Mobile data connectivity (AT&T, Verizon, etc.)

Workstations – CAD/RMS

- Intel core i5 4th Gen or GREATER
- 16GB RAM DDR3 or GREATER
- 100GB Available Hard Drive Space or GREATER
- Windows 7 Enterprise or Windows 10 Enterprise
- 1GbE NIC
- OpenGL is not supported for CAD/RMS

CAD-Video card and monitor recommendations

Recommend minimum 1 GB dedicated video card with multiple monitor capability. Preferred 3- 4 wide screen monitors GREATER than 19" with 1920 x 1080 resolution

RMS- Video card and monitor recommendations

Recommend minimum 512Mb integrated video card. Monitor GREATER than 19"

Server/Desktop Network Connectivity

- 1GbE LAN
- Dedicated Switch for CAD workstations
- Cat 5e cable to all workstations
- 45Mbps (T3/DS3) Network to remote offices
- Redundant Power Supplies
- VPN Access for SmartCOP support

**Remote offices will require the use of remote access server with VPN access*

Peripheral Hardware

- **Desktop Barcode Scanner** - USB or serial scanners capable of reading Code 39 and 128 barcodes. Must support carriage return after scan.
- **DL Scanner** – E-Seek M-260 or MAGTEK USB Card Reader Part# 21073062 (Keyboard Emulation Mode), Posh MX5-K9 Card Scanner, L-Tron 4910LR DL Reader (HID Mode), Honeywell 4800i Scanner
- **Document Scanners** – Microsoft windows compliant document scanner must be TWAIN compliant.
- **GPS Receiver** – GlobalSat BU-353-S4 USB GPS Receiver or equivalent NMEA compliant
- **Virtual Communication ports** - GpsGate Client Express software enables two applications to share one GPS device.
- **Evidence Labels –** 4" x 3" Label Printer (Wasp WPL305 or equivalent)
- **Mobile Report Printing –** Windows compatible printer
- **Desktop Printing –** Windows compatible printer. (*A color capable printer is recommended*)
- **ID Card Printing** (Empmast) **–** Data card SP55 or equivalent

- **Mugshot Capture Video Camera-** Recommend IP based camera Panasonic WV-SC384 or contact your SmartCOP representative for alternate recommended model types
- **Signature Capture Device** - Topaz Electronic Capture Device. Model T-S261-HSB-R / Model TL462 HSB *Note: Any 1 X 5 Sig Lite or Sig Gem series of devices will interface*
- **Fingerprint Capture Device** – Cross Match Verifier 300 LC 2.0 USB (Must be ordered with Auto Capture and Extract and Match License installed)

Server Virtualization

SmartCOP supports the virtualization of all SmartCOP server functions utilizing a VMware solution.

(Other Hypervisor solutions may be used but not recommended. Please contact your SmartCOP representative if considering an alternative hypervisor solution)

Minimum Requirements:

- VMware vSphere Hypervisor™ (ESXi) 5.5 or GREATER
- Host Server must be a VMware supported platform. For a list of supported platforms, see the VMware Compatibility Guide at http://www.vmware.com/resources/compatibility
- Each of the Virtual Machine resource allocations (processer / memory / storage) must meet the same requirements as the physical servers listed.
- 1Gb network
- Existing Virtual Environment resources cannot be over committed and dependent on ballooning.
- Separate ISCSI and LAN traffic using separate subnets and physical NICs

Strongly Recommended:

- VMware vSphere Hypervisor™ (ESXi) 6.5 or GREATER
- Dedicated switch for ISCSI storage traffic
- VSphere High Availability (HA) and Distributed Resource Scheduler (DRS) features enabled.

  The HA and DRS features are included with => VSphere Essentials Plus. See the following link for VMware licensing info. https://www.vmware.com/products/vsphere/pricing.html

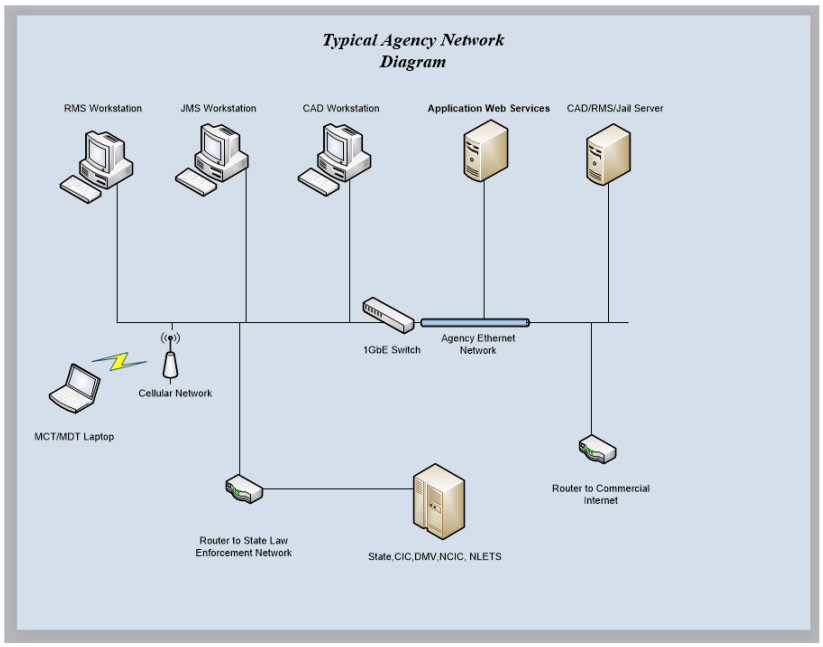
Virtualized SQL Server best practice considerations

1. Recommend Dell EqualLogic Series 10Gb iSCSI array
2. 10Gb dedicated managed switch for iSCSI storage network
3. Utilize RAID 10 for SQL data
4. SQL VM's should have assigned memory reservations, additionally if the SQL Server lock pages in memory parameter has been set, the VM's will need reservations set to match the amount of memory allocated in the virtual machine configuration.
5. Use the VM VMXNET network adapter for optimal performance
6. Use VMFS for virtual disk storage
7. Virtual disks configured as eager-zero thick in place of thin provisioning
8. VMware SQL Server Best Practices - http://www.vmware.com/files/pdf/sql_server_best_practices_guide.pdf

Licensing options for SQL Server

http://download.microsoft.com/download/B/4/E/b4e604d9-9d38-4bba-a927-56e4c872e41c/SQL_Server_2014_Licensing_Guide.PDF

Typical Agency Network Diagram



8.5 Wireless Bandwidth

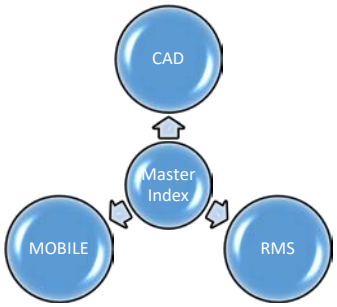
The minimum wireless bandwidth is 4G Mobile Broadband mobile data connectivity. Many variables are to be considered when using mobile devices, such as the coverage area, the number of users on the network, and signal strength.

One of the unique features of SmartCOP's mobile system allows for the application to recognize when it no longer has connectivity but still allows access to all query results and information held locally. During normal connected operation, the system displays a small green icon on the screen indicating that communication is active. If the user enters an area where data connectivity is lost, they can continue to operate in an offline mode. When the MCT senses that connectivity is lost, it will present to the user an icon indicating that connectivity is not available. If the user hovers the mouse over the icon, a message appears with exactly which component is and is not connected.

SmartCOP's Mobile Forms is an integrated mobile field reporting module that seamlessly operates on a server or offline via the disconnected mode. Officers can continue to create and modify reports regardless of connectivity and transmit them when data connection becomes available.

8.6 Data Structures

The Master Index is the repository for all person, business, vehicle, and vessel records used within SmartRMS and linking them with other SmartCOP applications. Agencies can create and maintain records for a variety of purposes. Users (including mobile users) can query a person's name and find all related records associated with that person (Incident, Charges, Citations, etc.) with the click of a button. The Master Name Index records contain mug shot pictures, addresses, aliases and nicknames, occupation records, vehicle records, and related arrest, and incident reports linked to that person.



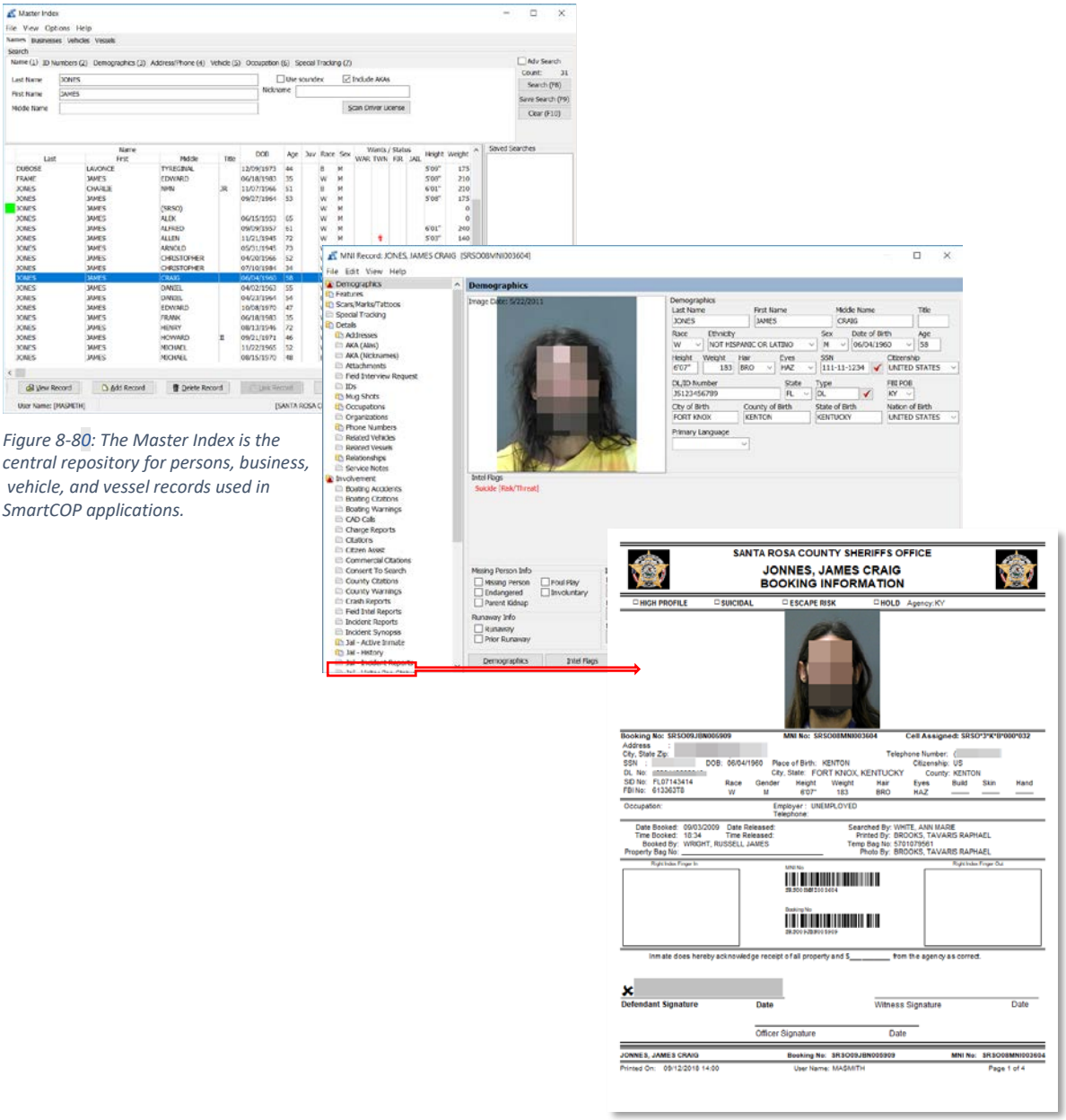


Figure 8-80: The Master Index is the central repository for persons, business, vehicle, and vessel records used in SmartCOP applications.

8.7 Uptime Performance

We have extensive experience working with our clients to determine the disaster recovery (DR) approach that best meets the agency's DR needs and budget. Our solution is built from industry standard components and does not require any proprietary hardware or software. We will work with your agency to determine the best DR approach for the new system.

SmartCOP's implementation for the Florida Highway Patrol (FHP) provides an excellent model for a DR site that provides near real-time replication of data storage at two geographically separated data centers, as well as an ability to fail over to the DR site within minutes with negligible disruption to the end users. For the FHP, we worked with the agency to construct a virtual infrastructure for all their system servers. They are currently using VMWare vSphere for their virtualization technology. We use a storage array-based replication system with SAN-based data replication between the primary and DR data centers. VMWare vCenter Site Recovery Manager is configured with recovery plans that allow for straightforward migration of virtual servers from the primary to the DR data center.

We are also familiar with the Zerto hypervisor-based replication tool, which in many circumstances provides a more cost effective means of replicating data between data centers. Zerto allows the replication to be accomplished without a need for matching SAN technologies at each datacenter. Several SmartCOP customers use software-based data replication technologies such as Vision Solutions' Double-Take. Double-Take provides real-time byte-level data synchronization between two storage devices.