INTRODUCTION

Gang activity is rapidly rising across the United States, Canada and around the world. In 2011 there were an estimated 1,400,000 active gang members throughout the United States, comprising more than 33,000 gangs. These numbers are a 40 percent increase from 2009 and indicators point to them continuing to grow through the present day. Attempts by federal, state and local law enforcement agencies to combat the growing gang problem are a day-to-day struggle. It is estimated that 48 percent of all violent crimes can be attributed to gang members. Gangs are increasingly engaged in non-traditional gang related crimes such as alien cross-border smuggling and human trafficking, prostitution, counterfeiting and identity theft.

The GangNet system, known as Cal/Gang® within the state of California, is a user-friendly, browser-based, investigative, analytical and statistical resource for recording and tracking gangs, gang members and their activities. The system is person oriented and is designed to share information and photographs collected on gangs, gang members, their associates and relationships to other gangs and entities. The system allows the identification of gang members and related entities through complete or partial information searching techniques including like-sounding searching for names as well as facial recognition searching (if configured). Through a simple user interface officers are able to work gang-related crimes by making use of the case management features. The system allows agencies to collect gang member information including individual biographical data such as age, weight, height, eye color, hair color and specific markings and tattoos. The system also allows for compiling data that links gang members to locations, vehicles, reports such as field interviews and arrests, weapons, narcotics and other gang members. The system also collects similar data on gangs such as AKA’s and the various symbols used by gangs. Users are able to quickly generate gang membership rosters and a multitude of statistical reports with the click of a mouse. The system also provides a resource for officers to collaborate, share their expertise as well as find other officers with a particular expertise. The GangNet system will continue to aid in the identification, location and apprehension of individuals and gangs engaged in a multiplicity of crimes on a local and national level. Since the systems inception, California has logged approximately 400,000 gang members with over 15,000 users from over 1,400 agencies accessing the system.

The GangNet system has received numerous awards and accolades for its pioneering and ground-breaking technology, including the Cisco 1999 Innovation Award, the Smithsonian 2001 Most Innovative New Technology for the Century Award, as well as the American Council for Technology (ACT) 2006 Intergovernmental Solutions Award (ISA). Each year new features and functionality are added to enhance the user experience and continue the evolution of the system.
The GangNet system can provide the foundation for a national gang repository. The GangNet system is operational in many states, Federal government agencies, as well as areas of Canada including:

- Arizona
- Florida
- Minnesota
- North Carolina
- Texas
- Washington
- Federal Bureau of Investigation (FBI)
- California
- Georgia
- Nevada
- Peel – Canada
- Toronto – Canada
- Wisconsin
- Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF)
- District of Columbia
- Maryland
- New Mexico
- South Carolina
- Virginia
- Department of Homeland Security Immigration- Customs Enforcement (DHS-ICE)

The systems above in bold are currently connected and sharing in real time, their vital gang information. Success stories from this sharing of information have been and continue to be reported.

**DESCRIPTION OF CAPABILITIES**

The capabilities of the system can be grouped into:

- Information Collection (also referred to as “data collection”)
- Data Analysis and Searching
- System Maintenance
- Additional Available Features

1. **Information Collection**

The GangNet system has been designed to support data collection from officers in the field, gang units, patrol officers, corrections officers, and any other law enforcement entity. The GangNet system provides a flexible subject-based system to support collecting information about persons, gangs, affiliates, vehicles, locations and contacts. Subject detail records include monikers, aliases, reports (field interview, jail intake interview, arrest, incident, etc.), physical descriptions, weapons, drugs, IDs, monikers, images, scars/marks and tattoos, probation information and other details. Gang detail records include gang symbols, areas, cities, gang injunctions, and predicate. Additional media files (Word, PDF, etc.) can be uploaded and attached to records to further enhance information. If textual, and not image-based, these attachments are also indexed for searching.
The GangNet system runs within a single browser window interface that allows users to conduct multiple searches, obtain results and have the ability to switch back and forth between tasks easily. A home page is provided that shows user login information, messages, links, notifications, and the users’ most recent activity history all on one page. The home page message board allows users to see critical and non-critical messages, and allows users to click links to external documents/sites that are pertinent to the message displayed.

**Report Form**

The GangNet system has the capacity for rapid data entry with the use of the digital Report Form. This allows users to collect information on field interviews and arrests and reduces the man hours required to enter data by allowing users to enter information on several subjects at once through a single on-screen entry form. The resulting information automatically creates relationships between the subjects, vehicles, and locations. The report form also captures report information during the creation of new subject records to simplify data entry and ensure proper record sourcing. A generic report may also be re-titled for a specific agency, for example “Gang Card” versus “Field Interview”, and reports can be further customized by SRA at additional cost.
**Watch List**

The GangNet system allows users with proper permissions to register system records such as Subjects, Gangs, Locations/Addresses, Vehicles, Weapons, Narcotics, Contacts, and be notified when other users have viewed or edited a registered record. This capability keeps officers aware of the latest information on pertinent data and increases officer safety. The Watch list functions also extend to the ability to be notified when someone enters a new record that matches the following criteria:

- Subject moniker or distinguishing mark
- Vehicle VIN or license
- Gang name, AKA or symbol/image description
- Contact area code and phone number, phone number, or email address
- Street name and city, or street number and street name and city.

When new information is entered for the first time that matches the registered criteria, the officer is alerted to the new information of interest.

**Administrative Notifications**

The watch list feature can also be used to notify designated users when specific data actions occur. If a Gang falls below three (3) members or if a gang affiliate collects more than two (2) gang criteria, the user will receive an administrative notification in the watch list. Administrative notifications can also be configured to send an email alert to the user.
Image Collection

Digital images in the format of JPG or GIF can be uploaded and associated to any of the objects (Subject, Gang, Vehicle, Location, Report, etc.) supported by the system. These images are displayed as part of the results of any search to aid in identification and analysis. The GangNet system lets you easily create electronic photo line-ups from subject images, as well as show and hide identifying details underneath the photos. Subject images may also be encoded and searched using a third party facial recognition application from SRA’s biometric partner (at an additional cost).

Slang Dictionary and Resource Features

The GangNet system has a built-in slang dictionary capability where users can record gang related slang terms, their meaning and region of use. The ability to record information about users and their gang related expertise is available in the Resource feature.
2. Data Analysis and Searching

The GangNet system provides robust, user-friendly tools designed to help the user discover hidden relationships. These tools include built-in statistical reports, ad hoc query reports, text searching, and automated multilevel link analysis.

**Statistical Reports**

The simplest and easiest analysis tools to use are the built-in statistical reports that provide aggregate counts using criteria selected by the user. These reports are pre-programmed and all that is required of a user is to supply some basic information to filter with such as age, gender, or ethnic background.

![Statistical Report](image)

**Ad Hoc Queries**

In large and diverse organizations it would be difficult to predict all of the possible statistical and custom reports that may be required. The ad hoc query capability allows users to construct their own reports (lists and statistical) from information in the database. Ad hoc reports are defined using standard structured query language (SQL). Report definitions can be saved and retrieved for future use.
Historical Counts

The system automatically tracks gang and subject information to monitor growing and diminishing counts in gang membership. By using the Historical Counts report, users can quickly see gang, gang membership and subject impact reports in a graphical display that clearly show upward or downward trends.

Top 10 Reports

Top 10 reports display the ten most active gangs, gang members or locations in the system based on the amount of backup documentation that has been collected on subjects. Backup documentation used to determine the most active gangs and subjects include field interviews, arrests, and investigative reports. Most active locations are determined by the number of subject associations to known locations. Top 10 reports can be filtered by date range and departmental information.
Text Lookup and Cross Reference

The text indexing with lookup and cross reference searching tool allows users to search all data in the system, including Word and PDF document attachments, for user specified words or phrases. This allows users to easily find information regardless of where it is located in the System.
Bulk Searching

Bulk searching allows users to query without the need to run multiple searches. Users can upload lists of search criteria to the system and run the resultant query to display matches. The results of a query can be downloaded for further analysis. Format-specific Excel spreadsheets can be created for upload use. The format types that can be uploaded for searching are Name and Date of Birth, Identification Number, Phone Number, or Vehicle License.

Automated Multilevel Link Analysis

The core design of the system supports data collection for each subject and then provides the ability to associate known subjects with other subjects and entities to build a relationship hierarchy. The system includes the implementation of SRA’s proprietary JAVA based multilevel link analysis program (JavaLink) to show the connectivity between subjects, affiliates and other objects. JavaLink, built to the ANACAPA standard, should not be confused with drawing packages where users define in a pictorial manner what they already know. The GangNet system’s automated link analysis helps the user discover information they do not already know. This is especially crucial when the data collection sources are diverse. Starting with any person or other main object, the user can create an automated diagram with the click of the mouse allowing up to 10 levels of relationships to be constructed in the diagram. The user may also augment the generated diagram with custom nodes and information. After the diagram has been generated, the user can save and print the diagram using a standard Windows printer or plotter.
3. System Maintenance

The GangNet system provides an extensive set of system maintenance features. The database maintenance capability supports an organization’s need to customize the system for their particular agencies, crime codes, vehicle makes and models, and common pick-lists such as hair and eye color. The ability to perform database maintenance is controlled by an access profile that is generally only given to the application administrator. These controls specify the user’s ability to perform activities (view, add, modify, print, and delete information) in the system. The administrator can create different access profiles consisting of any number of the individual controls (e.g. Subject Add, Subject Modify, Subject Owner Modify, Agency Modify, etc.) to restrict the actions that can be performed a given group of users. The Administrator can create and name as many profiles as necessary. The system automatically records information about the user who creates, modifies or deletes a record and/or detail record including the details of the modification if applicable.

User accounts retain information about the user, including login and access privileges. User account information includes user name, password, agency information and expertise, as well as contact information.

Data review and purging is required to ensure that the database is 28 CFR 23 compliant. The system provides purge reports based upon user-supplied parameters and produces a list of records scheduled to be purged. Alternately the system may be scheduled to automatically run the purge routine on a nightly basis to ensure the system is never more than twenty-four hours out of compliance.

Purge periods are also configurable by adult/juvenile record status if such a configuration is needed when the retention periods for each are different.

Data Security and Integrity

During the data collection process, actions of the user are audited for security purposes. All searches, adds, modifies and views of information are recorded in the system audit log that can be reviewed by all users of the system. In addition, if performing actions by proxy for a requesting individual this information is also collected and audited. Low-level information is stored with each audit allowing the display of the following details:

- Exact query run to generate a search result
- Exact Information added per the audit
- Exact Information deleted per the audit
- Exact Information modified per the audit
  - A comparison of the record before and after the change is available, highlighting the modified information
Standard audit reports are provided to system administrators with proper permissions. Data security features include automatic and manual screen locking, automatic account logoff due to session inactivity, high-level password encryption, and the use of strong passwords. Permissions are checked in real-time and thus, when changed, take effect immediately.

Data editing and deleting can be controlled at many levels, including the ability to edit and or delete either the primary object or its details for:

- All records
- Only records that are created by the user’s agency or department
- Only records that are created by the user’s facility or unit
- Only records that are created by the user.
4. Additional Available GangNet Features

Optional GangNet Mobile Connectivity

Mobile searching of GangNet from smartphones and PDAs is available. Searching of subject, gang, location, vehicle, and contact information is available in the mobile search. Connectivity from the mobile device to the GangNet mobile website will be required. If facial recognition is installed, a user can take a photograph in the field and have a comparative return in seconds.
Optional Data Transfer

To reduce the need for duplicate data entry, purchase of the GangNet Bridge and Gatekeeper will support automated transfer of data from RMS/CMS/IMS or other system to GangNet. The Gatekeeper allows a designated reviewer to examine data and approve or disapprove its inclusion into GangNet. The bridge can be configured to automatically add/merge incoming data on high probability matches as configured by the administrator. Please see the separate GangNet Bridge Overview document for additional information. The GangNet Bridge currently supports ingestion of data files in the N-DEx IEPD format (NIEM and LEXS based), but custom adapters can be developed for alternative formats.
Optional Biometric Capabilities

The system can seamlessly integrate with a highly-sophisticated, 255 points facial recognition engine. Facial images in the form of JPG can be encoded and stored in the system’s database. The system provides an easy to use interface to search for faces matching a selected target image and a user can generate a photo line-up from the results of the search.

Simultaneous Node Search

Agencies that have agreed to participate in the sharing of gang data have the ability to search both their local GangNet system as well as external GangNet systems with a single search command. Information returned from each GangNet system is shown as a separate tab on the results screen, giving the user the ability to view information from multiple sources without logging in and out of different systems. Network connectivity between the GangNet systems and memorandums of understanding (MOUs) between the systems are required.
**System Requirements**

**Required Supporting Software**

The system uses Internet technology. Required supporting software is listed below:

- Client: Mozilla Firefox or Microsoft® Internet Explorer (Version 8.0 or later)
- Web Server: Microsoft Internet Information Server
- Database Management System: Microsoft® SQL Server™ 2008 or newer
- Application Server: Adobe® ColdFusion® 10 or newer

**System Architecture**

The system requires a Microsoft Windows Server running Microsoft SQL Server, which may be provided by SRA at cost or obtained from a third party. The actual configuration of the servers (RAM, hard disk space, RAID etc.) will depend upon the potential size of the database, number of users and the number of transactions executed. Additional supporting software includes Cold Fusion (application server), and a web server (Microsoft Internet Information Server). In this architecture, users do not connect directly to the database, but to the web server that uses Cold Fusion to make requests and send information to the database. The user’s workstation only requires a web browser to connect. The system supports several connectivity options. Local area networks, wide area networks, wireless technology, and/or virtual private networks are supported. The connectivity choice is up to the customer based on what best fits into their current IT practices. In small installations, the architecture will support the GangNet system running on a single server.

![Diagram of system architecture](image-url)

Option for a small installation
High traffic and large installations require additional servers to support the workload and redundancy requirements. Additional web servers can be added to support load balancing. Additional SQL Servers can be clustered to support redundancy ensuring high availability including replication to a central location.

**NEED MORE INFORMATION?**

If you would like a proposal for the system described above or need more information on SRA GangNet or any other SRA product, please contact us at 1-866-895-6681; or gangsupport@sra.com; or visit us at http://www.sra.com.

**ABOUT SRA**

SRA International, Inc. is a leading provider of information technology (IT) services and solutions to clients in national security, civil government, as well as health care and public health. Our largest market, national security, includes the Departments of Defense, Homeland Security and Justice. Since its founding in 1978, SRA has successfully performed thousands of high-level projects delivering sophisticated IT systems and solutions to Federal, State and Local Government agencies. The Company’s 5,000+ employees serve clients from its headquarters in Fairfax, VA and its numerous offices around the country.