## CCTNS Core Application Software (CAS)

The CCTNS CAS would form the core of the CCTNS application. CAS (State) contains functionality that is common across all States. CAS (State) would be configured, customized, extended by each State/UT based on their unique requirements and deployed at the State Data Centre. In order to ensure consistency between States and facilitate the exchange of crime and criminals related information between States and the Centre and between States, NCRB would develop, own and maintain the CAS.

In terms of functionality, CAS would cover those police functions that are central to the goals of the CCTNS project and are common across States. As detailed out below, this would include core functions in the areas of Case Management, Police Station Efficiency and Analysis & Reporting. Over and above the CAS, the States/UTs would be free to add more functionality based on their unique requirements. It is estimated that of the possible police functions that could potentially be part of the CCTNS application at the State level, the functionality covered by CAS is a relatively small part.

The functionality and other features of CAS have been determined on the basis of an exercise that included among other things, a study of some of the past and existing systems in the police domain, their strengths and drawbacks and the factors behind the success or failure of the system. The following figure summarizes the evolution that is needed in CCTNS (relative to the previous efforts) in order t achieve the stated goals.
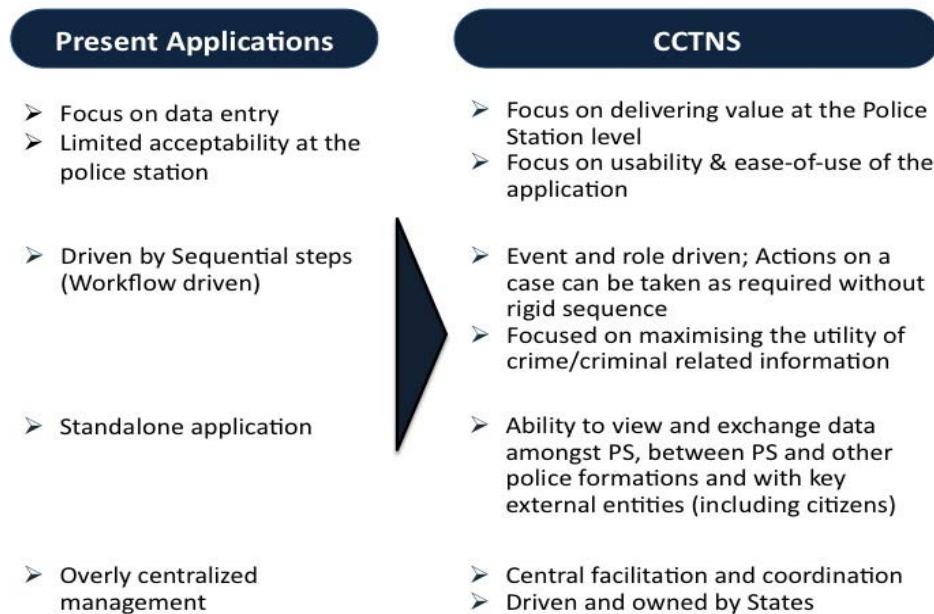
In order to achieve the above stated goals of simultaneously ensuring consistency and standardization across States (where necessary and possible), and enabling States to meet their unique requirements, CAS must be built as a highly configurable and customizable application. CAS would therefore be a *product-like* application that could be centrally managed and at the same time customized to meet the unique requirements of the States and deployed in several States. The following sections provide details of the configuration and customization requirements of CAS.

In order to achieve the key CCTNS goal of facilitating the availability of *real time* information across police stations and between police stations and higher offices, CAS would be built as a web application. However, given the connectivity challenges faced in a number of police stations, especially rural police stations, the application must be built to work in police stations with low and/or unreliable connectivity.

Overview of CAS

The CCTNS CAS would form the core of the CCTNS application. CAS (State) contains functionality that is common across all States/UTs. As mentioned before, CAS (State) would be configured, customized, extended by each State/UT based on their unique requirements and deployed at the State Data Centre. In order to ensure consistency and facilitate the exchange of crime and criminals related information between States/UTs and the Centre and among States/UTs, NCRB would develop, own and maintain the CAS. In terms of functionality, CAS would cover all those police functions that are central to the goals of the CCTNS project and are common across States/UTs. As detailed out below, this would include core functions in the areas of Complaints/ Case Management, Police Station Efficiency and Analysis and Reporting. Over and above the CAS, the States/UTs would be free to add more functionality based on their unique requirements. It is estimated that of the possible police functions that could potentially be a part of the CCTNS application at the State level, the functionality covered by CAS is a relatively small part. The functionality and other features of CAS have been determined on the basis of an exercise that included among other things, a study of some past and existing systems in the police domain, their strengths and drawbacks; and the factors behind the success or failure of the system. The following figure summarizes the evolution that is needed in CCTNS (relative to the previous efforts) in order to achieve the stated goals. The CAS will mainly focus on:

- Delivering value at the Police Station Level

- Usability and ease of use of the application

- Event and role-driven system where actions on a case can be taken as required without rigid sequence

- Maximizing the utility of networked crime/criminal/and other related information

- Ability to view and exchange information amongst Police Stations, between Police Stations and other Police formations and with external entities including citizens

- Central facilitation and coordination; but primarily driven and owned by States/UTs where States/UTs can configure and customize the CAS for their unique requirements without the intervention of the central entity

In order to achieve the above stated goals of simultaneously ensuring consistency and standardization across States/UTs (where necessary and possible), and enabling States/UTs to meet their unique requirements, CAS must be built as a highly configurable and customizable application. CAS would therefore be a *product-like* application that could be centrally managed and at the same time customized to meet the unique requirements of the States/UTs and deployed in all States/UTs. The following sections provide details of the configuration and customization requirements of CAS.

In order to achieve the key CCTNS goal of facilitating the availability of *real time* information across police stations and between police stations and higher offices, CAS would be built as a web application. However, given the connectivity challenges faced in a number of police stations, especially rural police stations, the application must be built to work in police stations with low and/or unreliable connectivity. CAS will be built in conformance with the standards of the practices followed in CMMI Level 4 Company or above. CAS has to be designed in order to ensure easy scalability to future needs for the next 15-20 years.

Vision for CAS (State)

It is envisioned that CAS (State), once operational, will significantly enhance the outcomes in core police functions at Police Stations. It will do so primarily through its role- and event-orientation, that helps police personnel (playing different roles) in more effectively performing their core functions and that relieves police personnel from repetitive tasks that claim much of their time while returning low or no value. In order for CAS (State) to achieve the above goals, it is envisaged to meet the following requirements:
- It will lay special emphasis on the functions at police stations
- It will be designed to provide clear and tangible value to key roles: specifically the SHO (Station House Officer), the IO (Investigation Officer) and the Station Writer.
- It will be event- and role-driven
- It will be content/forms-based, with customized forms based on requirements
- It will be a flexible application, not controlled by rigid workflows
- It will eliminate the need for duplicate and redundant entry of data, and the need for repetitive, manual report preparation – this freeing valuable time and resources for the performance of core police functions
- It will be intelligent and help police perform their roles by providing alerts, highlighting key action areas, etc.
- Reporting and data requirements of higher offices must be met at the State Data Centre/SCRB level and not percolate to the police station level.

Functional Scope of CAS

CAS comprises parts of police functionality that is central to the goals of CCTNS and that which is common to all States/UTs. Broadly it has been conceptualized to comprise two parts:

CAS (State): CAS (State) would be a collection of services that would be deployed in States and UTs. It would focus primarily on functionality at police station with special emphasis on crime investigation and criminals" detection. The following are the main function blocks that would comprise CAS (State):

- Registration
- Investigation
- Prosecution
- Records Management
- Search and Basic Reporting

Given the criticality of the functionality at the police stations, the system must be geared towards providing non-stop service at the police stations..

CAS (Centre): CAS (Centre) would comprise the services that would address the requirements of NCRB, and would be deployed and used at NCRB premises. CAS (Centre) would enable NCRB to receive crime and criminals" related data from States/UTs in order to organize it suitably to serve NCRB"s requirements and to provide NCRB with the analysis and reporting abilities to meet their objective as the central level crime and criminals" data repository of the nation.

CAS also needs interfaces with Common Service Centres (CSC) and *eforms* applications (of State portals) together with RTI related disclosures at the State level. Also, CAS (State) and CAS (Centre) are expected to interface with external agencies such as passports, transport authorities, etc. The requirements corresponding to such external interfaces are under study and will form part of CAS (State) and CAS (Centre) at a later stage.
Phasing: The phasing out of the proposed CAS functionality would be determined through discussions between NCRB and the SDA during the System Study.
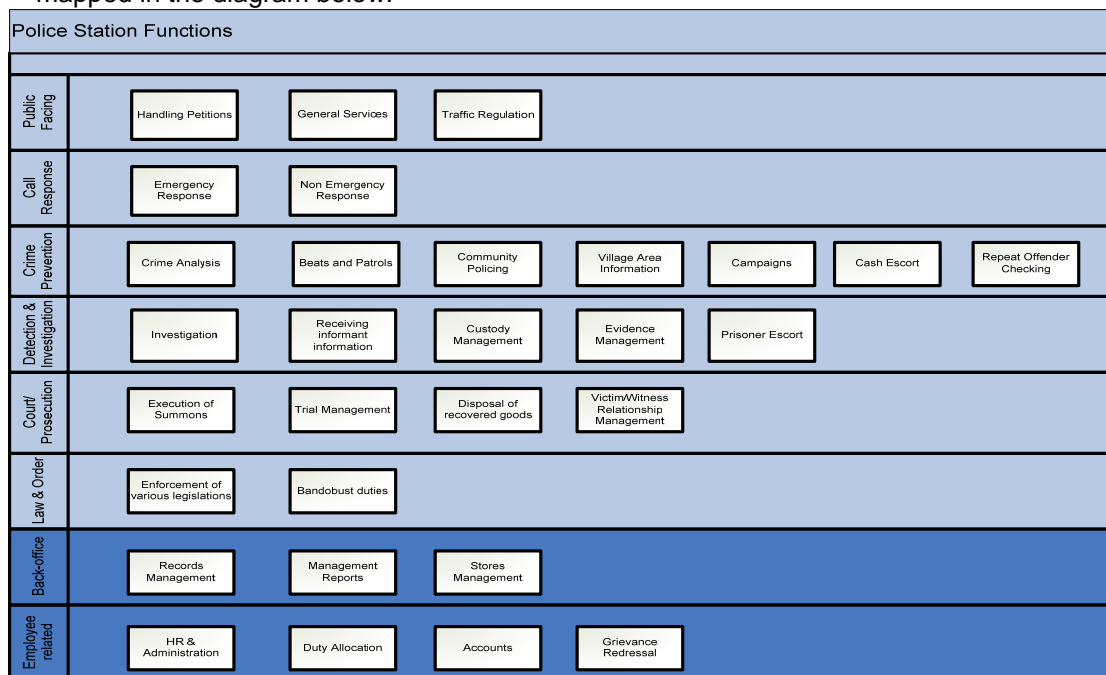
Functional Scope and Requirements of CAS

The functional scope primarily covers the functions and activities at the Police Station.

Police Station

i. The police station is a hub of several activities. Maintenance of law and order, crime investigation, protection of state assets, VIP protection, traffic control, service of summons, production of witnesses in courts, intelligence gathering, Bandobust duties, crime prevention are some of multifarious functions that the police station and its officers have to discharge. Police stations also serves as front-end of the entire police department in dealing with public complaints and requests, and at the same time they occupy a pivotal place as the primary information collection agent for the other functions/wings within the department. In order to achieve the end-objective of bringing in efficiency and effectiveness in the police station, it is crucial to understand the different responsibilities of the police station and identify the key services that need to be addressed in this study.

ii. The first step in identifying the key functions is to segment them under core and supporting, where the core includes services like crime prevention, petition handling and the supporting include the employee related personnel and pay functions, store management etc. The efficiency gains are achieved through addressing the supporting services where the police station is provided with tools to perform the tasks faster with fewer resources, and the effectiveness gains are achieved by addressing the core services where the police station can improve the quality of the services.

Based on the study in the police stations, the various functions of a police station have been mapped in the diagram below.

Police Station Functions						
Public Facing	Handling Petitions	General Services	Traffic Regulation			
Call Response	Emergency Response	Non Emergency Response				
Crime Prevention	Crime Analysis	Beats and Patrols	Community Policing	Village Area Information	Campaigns	Cash Escort	Repeat Offender Checking
Detection & Investigation	Investigation	Receiving informant information	Custody Management	Evidence Management	Prisoner Escort	
Court/ Prosecution	Execution of Summons	Trial Management	Disposal of recovered goods	Victim/Witness Relationship Management		
Law & Order	Enforcement of various legislations	Bandobust duties				
Back-office	Records Management	Management Reports	Stores Management			
Employee related	HR & Administration	Duty Allocation	Accounts	Grievance Redressal		

1)Citizen Portal Service

The Citizen Portal Service should enable Citizens to track the progress of their General Service Petitions and Citizen Services online. General Service Petitions/Citizen Services include passport verification requests, NOC (No Objection Certificates, NOC for vehicle theft, Lost Cell Phone Certificate, etc.)
- a) *Should allow user (citizens) to access Citizens' Services portal via the internet*
- b) *Should allow users (citizens/petitioners) to search for their request on the basis of Service Request number or petitioner details.*
- c) *Should display petition/service request details and status on the screen based on the user search*
- d) *Should allow users to save the status as a PDF file and/or print the status*
- e) *Should allow the users to provide comments and feedback on online services*

2)Petition Management Service

General Service Petition can be any of No Objection Certificate (NOC) for job, NOC for vehicle theft, NOC for lost cell phone/passport, Licenses for arms, processions etc.
- a) *Should allow the user (police staff) to capture the general service petitions of the citizens based on their request. The general service petitions can be any of the following No Objection Certificates, Lost cell phone certificate, permissions for procession, permission for mikes, etc.*
- b) *Should allow uploading of any relevant documents such as scanned documents/images*
- c) *Should present different templates/forms for different kinds of petitions*
- d) *Should allow the user to assign the petition to police personnel for preliminary enquiry.*
- e) *Should allow the user to record notes/remarks to the petition.*
- f) *Should allow the user to search the existing repository of previous cases/petitions before responding to the petitioner.*
- g) *Should allow for approval by the concerned officer before issuing the certificate.*
- h) *Should provide the user to entrust/re-entrust the petition and close the petition*
- i) *Should allow the user to generate the certificate or report or permission or the response to the petitioner*
- j) *Should allow the user to link / de-link petitions*
- k) *Should allow the user to merge petitions in case of duplicate petitions*
- l) *Should provide the reports and search capabilities on the petitions*

3)Unclaimed/Abandon Property Register Service

The Lost/Stolen property registers will maintain the unclaimed/abandon property. Police personnel would search the registers to identify, if the unclaimed property is reported lost or stolen for different case.
- a) *Should allow the user to capture the unclaimed/abandoned property details.*
- b) *Should allow uploading of any relevant documents such as scanned documents/images*
- c) *Should present different templates/forms for different kinds of property (vehicles, cultural, fire arms, cell phones etc.,)*
- d) *Should allow user to search the lost/stolen property in different case or different police station within the repository.*
- e) *In case a match is found the system should link the unclaimed/abandoned property with the case*
- f) *In case if the property wasn't claimed for more than 6 months then the system should prompt & record the auction details after requisite approvals.*
- g) *Should provide the reports and search capabilities on the unclaimed/abandon property*

4)Complaint and FIR Management Service

*Citizens approach police station to log the complaints which can be of cognizable, non-cognizable etc.,
The police personnel will register the complaint and generate an FIR/NCR*

   a) *System should provide the user to log the complaint details. The complaints could be of different nature (Cognizable and Non-Cognizable; Criminal Incident, Missing Person, Stolen Property, Deserter etc.,)*
   b) *Should allow uploading of any relevant documents such as scanned documents/images*
   c) *Should present different templates/forms for different kinds of complaints*
   d) *Should allow the user to assign the complaint to police personnel for preliminary enquiry.*
   e) *Should allow the user to record notes/remarks on the complaint.*
   f) *Should allow the user to search the existing repository of previous complaints before acting on the complaint.*
   g) *Should allow for approval by the concerned officer before issuing the FIR/NCR.*
   h) *Should provide the police personal to create the FIR/NCR (Non Cognizable report)/complaint report (for other cases) or a report for juvenile case.*
   i) *Should allow the user to transfer an FIR falling in other jurisdiction*
   j) *System should facilitate the closing of a complaint for those complaints which do not proceed for investigation.*
   k) *System should allow the user to link / de-link complaints*
   l) *System should allow the user to merge complaints in case of duplicate complaint. The complaints can also be registered through the PCR Call Interface and Management Service.*
   m) *Should present the station writer a dashboard with the report summary table consists of new cases, court disposal, cases pending arrest etc.,*
   n) *Should provide the reports and search capabilities on the complaints registered.*

5)PCR Call Interface and Management Service

*The Complaints are also registered through the Central Police Control Room at the State Headquarters
that is accessible to the public through Emergency Contact number (100).*

   a) *The system should provide an interface for the Police Control Room personnel to capture the call and caller details in the Complaint Management System.*
   b) *The system should display all the unanswered calls and the call/caller details to the user.*
   c) *System should arrange the incoming calls in the order that come in.*
   d) *The system should allow the user to answer /respond to the call through the user interface.*
   e) *The system should allow the user to record the call.*
   f) *In case the call(s) comes in for an already registered complaint, the system should allow the user to link the call(s) to the registered complaint.*
   g) *System should provide an interface to the Police Control Room (PCR) and Police Station users to capture the details of the complaint and the caller / complainant through a "quick capture complaint form" relevant for a complaint that is reported in through a phone call, email, walk-ins in emergency or a non-emergency situation. The system should also have the provision for recording the call along with the timestamp and capture in the system.*
   h) *In case the caller reports a complaint that is within the jurisdiction of the PCR (either State HQ or District), the system should allow the user to identify the appropriate police station or available patrol vehicle and transfer the call to the same for response.*
   i) *In case the caller reports a complaint that is outside the jurisdiction of the PCR (either State HQ or District HQ), the system should allow the user to transfer the calls to the appropriate police control room that has the jurisdiction.*
   j) *The system should allow the user to record the details of complaint assignment and the action taken by the responder on the complaint.*
   k) *Should provide the reports and search capabilities on the call registered/logged*

6)Investigation Management Service

After a complaint is registered, police initiates the investigation process. The case is assigned to an Investigation Officer (IO). During the course of investigation, additional details are captured to build further to the information gathered during the registration phase.

In case of NCR (Non Cognizable Report), the system should allow user to capture the investigation details relevant to a non cognizable offence and the approval from the court and prepare a final report for closure of the NCR.System should allow the user to generate an alteration memo and subsequently modify the acts and section details of the complaint.

a) *Should allow uploading of any relevant documents such as scanned documents/images*

b) *System should allow the user to record and transfer a case that does not fall under jurisdiction of the present police station*

c) *Should present customized templates/forms for the type of complaint under investigation.*
d) *Should allow the user to assign the FIR to other police personnel.*
e) *Should allow the user to record notes/remarks on the complaint.*
f) *System should change the case status depending on the progress of the investigation.*
g) *System should allow the user to record the remarks on the status/case progress.*
h) *System should associate pre-defined tasks / activities that are required during the investigation to the case. The tasks / activities should be customizable by the administrator to the type of the case under investigation.*
i) *The user should be able to add / modify tasks / activities to the pre-defined list associated with the case. The administrator should be able to add / modify the super-set of tasks / activities defined in the system and make them default to a type of the case.*
j) *Should allow the user to capture the details of the investigation relevant to the type of the complaint.*
k) *Indicative details captured during investigation are given below.*
    i. *Crime scene details*
    ii. *Victims Details*
    iii. *Accused Details*
    iv. *Witness Details*
    v. *Property Details (stolen/seized)*
    vi. *Evidence details*
    vii. *Forensics details*
    viii. *Medico Legal Case Details*
    ix. *Other details in the crime details form*

l) *System should allow preview and printing of all the required forms (7IIF's, forms required for preparing the case dairy and other forms necessary for submission to the external entities such as courts).*

m) *Incase of death, system should allow the user to capture results conducted for inquest (whether person was hurt, details of clothing etc.,) and generate an inquest report.*

n) *System should capture the inquest report generated by the magistrate incase of death in police or judicial custody or death of lady within 7 years of marriage.*

o) *System should allow the user to prepare, preview, print requests/forms that are sent to external agencies (FSL, FPB, hospitals, RTA etc.,) for expert opinion. The request/forms should be made available to the user as templates that are managed (created/edited) through administration functionality.*

p) System should provide the feature to capture the response in the form of parameterized data and scanned documents received from different external agencies.

q) System should allow the user to prepare, preview and print arrest card.

r) System should allow user to capture the court surrender details

s) Should allow the user to capture the interrogation details as summary and parameterized data.

t) System should allow the user to capture the custody/remand details related to the decision of the court on the arrested that are produced before the court.

u)
System should allow the user to view the detailed and summary views of the case

v) System should allow the user to prepare the final report (charge sheet, undetected, untraced, mistake of fact, civil nature).

w) System should prompt the user with the list of documents required for filing a charge sheet.

x) System should allow the case to be reopened and reassigned to a different investigating officer. In case of reopening, the case history should be maintained.

y) System should also track the remarks/suggestions posted by higher officers during investigation.

z) System should present the IO dashboard of under trials, under investigation, rep-opened cases to user based on their roles and their jurisdiction.

aa) System should provide the dashboards to higher officials about the case progress and metrics about PT cases etc.,

bb) System should allow the SSP & Senior Officers to view the summary of
cc) cases based type of case and cases falling in their jurisdiction

dd) System should present the SHO & Senior officials about the details of the cases based on the status like open, closed, re-open, disposed, unresolved and case pending for trial.

ee) Should provide the reports and search capabilities on the case progress.

7) Court and Jail Interface & Prosecution Management Service

At the end of the investigation, a Final Report is filed in the court. Interfacing with the courts during the prosecution of cases is an integral part of the responsibility of police personnel. This will help the police personnel in preparing the charge sheet and recording the prosecution / trial details.

a) System should allow the user to capture the charge sheet acknowledgement details (interim and final) received from the court after the submission of the Charge Sheet.

b) System should allow the user to capture the summons/warrants issued by court.

c) System should allow the user to assign the summons/warrants to police personnel.
d) System should allow the user to record the status of execution on the summons/warrants.
e) Incase if accused applied for bail, system should allow the user to record the bail details
f) System should allow the user to capture the Trial update / Court disposal form.

g) Indicative details captured during trial day of the case are given below

     i. *Court Disposal Details*
     ii. *Next hearing date*
     iii. *Trial Status of the persons involved (Attendance, Examination, Bail Plea, Required for Next Hearing…)*
     iv. *Bail*
     v. *Accused Status*
     vi. *Next Hearing date*
     vii. *Court Order*

h) *System should allow the user to capture details if the convicted appeals in the higher court.*

i) *System should allow the user to capture the status (granted retrial, appeal denied) of the appeal.*

j) *System should allow the user to capture jail / remand related information (release from jail, sent on judicial remand, sent to police custody …).*

k) *System should allow the user to manage and handle the split cases.*

l) *System should allow the user to proceed for re-investigation if ordered by the court.*

m) *The solution should provide the IO to view the tasks that he/she had set in calendar, the court appointments, and Administrative related tasks.*

n) *The system should allow the prisoner / suspect / arrested / convict /acquitted movements into and out of jails.*

o) *System should present court constable dashboard include court appointment schedule, summary of charge sheets, case disposed by court, summons and warrants.*

8)Crime and Criminal Records and Query Management Service

This functionality will help the police personnel in searching (Quick & Advanced) the complaint, crime, criminal, abandoned / unclaimed property, stolen / lost property, missing persons, arrested, released from jails, convicted, acquitted, pending warrants, pending summons and other investigation-toolkit-data (Vehicle Registration, Driver License, Cell Phone Numbers, Voter Details, Education Data, …) Repository

a) *Should provide the user to search the repository based on FIR No, Beat area, case category, date range and year/month/week. It should also provide the user to select multiple values for a single field.*

b) *Should provide the user a quick search for given case ID*

c) *System should also provide an advanced search capability and allow user filter the search to a greater detail like crime details, suspect details, victim details, modus operandi and property.*

d) *The system should allow the user to configure / build a query on the searchable data through query builders.*

e) *System should provide the ability to store, load and delete custom queries to each user for easy retrieval.*

f) *System should allow the user to organize the search results sort by clicking on table header*

g) *System should organize the search results in paged manner. It should also provide user the flexibility to navigate to the required page.*

h) *System should provide standard formats for the data from external sources (Vehicle Registration, Driver License, Phone (cell and land line from multiple providers) Numbers, Voter Details, Educational / Academic Certification Data) and a utility to capture the data into the investigation toolkit-data repository.*

i)   System should provide for capturing the updates or a complete feed of the external data and capture only the updates since the last feed in case of a complete data set is re-fed into the system.

j)   System should maintain the history of data in case of modifications (ex,vehicle transferred to a new owner, an old cell phone number acquired by a new user,…)

k)   System should provide the user with an ability to search (full and partial strings) the investigation-toolkit-data repository. This search interface should be made available both as a separate interface and as well as an integrated interface, integrated with the crime and criminal search interface.

l)   In case the searched entity has a history of ownership, the same should be presented in the search results.

m)   System should provide the user to export the search results in the format selected by the user like doc, pdf, xls, and spreadsheet in printer friendly format with page numbers printed on every page.

If a user requests access to, or searches for, a case which he does not have the right to access, the System must provide one of the following responses (selectable at configuration time):
- display title and metadata;
- display the existence of a case but not its title or other metadata;
- Do not display any case information or indicate its existence in any way.

These options are presented in order of increasing security. Note that the requirement in the third option (i.e. the most stringent) implies that the System must not include such cases in any count of search results;this level of security is normally appropriate for cases dealing with matters such as national security.If a user performs a quick or advanced search, the System must never include in the search result list any record which the user does not have the right to access.

9)Police Email and Messaging Service

The Police Messaging system is role based communication system helps the police personnel to send "Faster" and "Secure" official correspondence within / across the multiple wings within / across the Police Departments. It should provide the general mailbox features such as address book, send / receive mail with attachments,creation / deletion of folders, moving mail to folders, spell check, mail filters, calendar, rich text editor, auto responders, signatures, server side mail filters, spam filters and support the mail protocols (IMAP and SMTP).

In case of email, the system should offer all the features of the police messaging systems. However, the emails will be personal emails / authentication identity that are created at the time of creation / addition of the user into the system and not role based.
a)   Should allow the user to create or import the organizational hierarchy and the users of the police department
b)   Should allow the user to select the user list from the organization hierarchy

c)   Should allow the user to create personal address book, groups

d)   Should allow the user to send messages to groups.

e)   Should allow the user to create & select templates for message standardization

f)   Should allow the user to choose the option for read receipt

g)   Should allow the user to search the messages from the archive based on message subject and between two dates

h) *System should allow the user to choose the option of encrypting the message*

i) *System should allow the user to print the message in printer friendly format*

j) *System should allow the user to subscribe to alerts on cell phone in case of receiving a new email in the inbox.*

k) *System should show the usage statistics at all levels and departments.*

10) Periodic Crime and Law & Order Reports and Review Dashboard Service

This functionality will help the police personnel to view the snapshot of the various statistics within and across police stations on petitions, cases, NCR, FIR, warrants, wanted offenders/suspects etc.,. This will also be used by the higher officers at all levels/roles to conduct periodic reviews of the police stations in their jurisdiction.

a) *System should present customized dashboards to the users based on their role (Duty Constable, Court Constable, Station Writer, IO, SHO, Circle Inspector, ACP, DCP, Sub-Divisional Officer, CP,SP, higher officers in the Range/Region/ Chief Office*

b) *System should present various statistics such as summarized information, current progress, monthly numbers, comparative statements, trends with charting capability, exception reports, crime maps indicating the hot spots.*

c) *System should allow the user to view on alerts/events/reminders*

d) *System should present the user with statistics of all petitions*

e) *System should present the user with statistics on "Newly Registered complaints"*

f) *System should present the user with statistics on NCR's (Non Cognizable cases).*

g) *System should present the user with statistics on FIRs with different statuses such as New/Under Investigation/ Pending Trial/ Re-opened*

h) *System should present the user with statistics on Warrants & Summons*

i) *System should present the user with court calendar which includes details on court appointment schedule, information on the cases under trial*

j) *System should present the user with activity calendar*

k) *System should present the user with statistics and list of "high priority FIR" (Grave Crime Details)*

l) *System should present the user with list of Pending Arrests & Wanted Offenders/Suspects*

m) *System should present the user with statistics of charge sheets & Court Disposal*

n) *System should present the user with list of latest happenings across police stations such as missing persons & unidentified dead bodies*

o) *System should present the user with prisoner movement updates*

p) *System should present the user with Major and Minor head wise statistics*

q) *System should present the application usage statistics that provide indicators on the application uptake and usage by the police personnel*

r) *System should allow the user to drill down to a granular level to a complaint or suspect from the information presented in the dashboard.*

s) *System should provide the user an interface to enable the senior officers to conduct periodic reviews of the police station (citizen services, law & order, crime,…)*

t) *System should allow the user to generate comparative statements of the above said statistics during monthly crime reviews.*
u) *System should allow the user to review the pending or overdue actions such as "filing a charge sheet within a defined time limit from the time of registering the case", arrest of known accused etc.,*

v) *System should allow the user to create additional tasks / alerts /reminders on the actions items for investigating officers and track its progress in next monthly review.*

w) *System should consolidate and generate statistics based on the role and jurisdiction*

11) Notification of Alerts, Important Events, Reminders and Activity Calendar or Tasks Service

Alerts and Events will help the police personnel to know about the latest information about arrest, vehicles recovered, un-known dead bodies, Date of VIP bandobust etc.,

a) *System should automatically generate alerts (suspect in one case person or wanted either because of pending warrants / summons apprehended/arrested in a different case, vehicle reported lost in one case is either recovered or found abandoned, dead body details captured in the system matches the details for a missing person reported in a different case, suspect in one case / person wanted either because of pending warrants/summons sent on remand or released in a different case, complaint of certain kind (attention diversion gangs) registered in a police station, in case a general petition for a procession or road work has been approved,an alert on the same well in advance to the affected police station(s),alerts in case an activity is pending for more than a week or an advance alert in case the stipulated time is about to expire (ex, police remand about to expire and the IO has to file for remand extension), a case coming up for trial where the IO has to be present as a witness, ….)*

b) *System should automatically generate reminders of any pending or overdue actions on the cases that are pending registration / investigation / trail.*

c) *System should allow the user to create and send user alerts / events /reminders to identified group / subscribed users / police stations.*

d) *System should allow the user to schedule the activities and maintain the calendar with reminders.*

e) *The alerts / events / reminders are either sent to the respective IO / SHO handling the case or in charge of the police station with the jurisdiction of the case.*

f) *The alerts / events / reminders should be available to be sent in the form of an email, or SMS to the registered phone or as an alert in the application once the user logs into the system or all available modes.*

12) State-SCRB-NCRB Data Transfer and Management Service

This functionality will enable the states to transfer the crime and criminal data from states, to organize it suitably to serve NCRB requirements. As part of the scope of the SDA, the SDA has to design common formats for maintenance of crime and criminals' records that will be used across all Police Stations in the country; and would facilitate the usage of these formats for the creation of sharable crime and criminals' related databases at Police Stations, Districts, States and at the national level.

a) *Should extract the crime, criminals, and other related data or updates from the previous extraction from States and UTs database at regular and pre-specified periods. The periodicity might differ from data group to data group.*

b) *The data extracted from States/UTs must be transformed into standard formats required by NCRB.*

c) *The data should be run through a quality process to identify any possible duplicates or wrong data before sending to NCRB*

d) *Transformed and cleansed data must be uploaded on to NCRB databases*

e) *The system should provide the flexibility to cleanse and transform data*

f) *The system should support automatic extraction of data*

g) *System should provide an option to monitor and manage data Extraction, Transformation and Loading process*

h) *System should allow the user to kick start the load process manually in the absence of load failure*

i) *System should allow reconciling those records which failed during the load process.*

13) State CAS Administration and Configuration Management Service

This functionality will help the individual states to configure the application to suit to their requirements. The configurability should be by a business user through the user interface of the application or through a technical user by changes to the master data at the database without any requirements of changes to code or redeployment of the application.

a) *The solution should provide the user to customize the application without affecting the core.*

b) *System should allow the user to change the look and feel like font, skins,images of the application*

c) *System should provide the flexibility in creating/modifying and deleting the user Hierarchy and should allow the admin to assign roles as proposed by Districts, Ranges, Zones and police stations.*

d) *System should allow the user to define the organization all its unit (police stations, districts, range, zone) and user hierarchy*

e) *System should present the data elements based on major and minor heads selected by user.*

f) *System should generate reports based on roles defined.*

g) *System should allow the user to add/modify/delete/modify-order of acts,sections and local laws.*

14) User Help and Assistance Service

This functionality will help the user in providing the details about each page and also help in guiding the police personnel in capturing the data.

   a) *The solution should provide detailed context-sensitive help material for all the possible actions and scenarios on all user interfaces in the application.*

   b) *The solution should provide context based help facilities and also on-line help at functions, screen and field level that can be customized by the State.*

   c) *The solution should have comprehensive help facility wherein the users can obtain system specific technical / functional help on line.*

   d) *The help should be accessible to the users both in the offline and online mode.*
   e) *The system should maintain and make available to user a database of frequently asked Questions*

15) User Feedback Tracking and Resolution Service

This functionality will help the police personnel in logging the issues/defects occurred while using the system on to Issue tracking system.

   a) *The solution should provide an interface for the user to log any defects or enhancement requests on the application and track thereafter.*
   b) *The solution should send alerts (e.g., email, SMS) to the user if the user chooses to whenever any action has been taken on the alert*
   c) *The solution should enable the user to track the submitted defect or enhancement request.*

   d) *The solution should enable the help-desk user to view the reports on the submitted defects or enhancement requests category-wise, status-wise, and age-wise.*

   e) *The support solution should be accessible to the users both from within the application and also outside the application through a different interface (ex, in case the CAS application is down).*

16) Activity Log Tracking and Audit Service

The Audit Trail is a sequence of audit records, each of which contains evidence directly pertaining to and resulting from execution of a business process or system function.

   a) *An audit trail is a record of actions taken by either the user or the system triggers. This includes actions taken by users or Administrators, or actions initiated automatically by the system as a result of system parameters. The System must keep an unalterable audit trail capable of automatically capturing and storing information about:*
   - *All the actions (create/read/update/delete) that are taken upon the critical entities (case, suspect, property,…) in the system*
   - *The user initiating and or carrying out the action;*
   - *The date and time of the event.*
   - *Administrative parameters*

The word "unalterable" is to mean that the audit trail data cannot be modified in any way or deleted by any user; it may be subject to re-department and copying to removable media if required, so long as its contents remain unchanged. Once the audit trail functionality has been activated, the System must track events without manual intervention, and store in the audit trail information about them.

b) *The System must maintain the audit trail for as long as required, which will be at least for the life of the case to which it refers.*

c) *The System must ensure that audit trail data is available for inspection on request, so that a specific event can be identified and all related data made accessible, and that this can be achieved by authorized external personnel who have little or no familiarity with the system.*

d) *The System must be able to export audit trails for specified cases (without affecting the audit trail stored by the System). This functionality can be used by external auditors, who wish to examine or analyze system activity.*

e) *The System must be able to capture and store violations (i.e. A user's attempts to access a case to which he is denied access), and (where violations can validly be attempted) attempted violations, of access control mechanisms.*

f) *The System must at a minimum be able to provide reports for actions on cases*

Services for CAS (State)

i) **Citizens Portal Service:** This service shall enable Citizens to request services from Police through online petitions and track status of registered petitions and requests online. Citizens requests/services include passport verification services, general service petitions such as No Objection Certificate (NOC) for job, NOC for vehicle theft, NOC for lost cell phone/passport, Licenses for arms, processions etc.

ii) **Petition Management Service:** The service shall enable the police personnel to register and process the different kinds of general service petitions and complaints.

iii) **Unclaimed/Abandon Property Register Service:** The service shall enable the police personnel to record and maintain unclaimed/abandoned property registers and match unclaimed/ abandoned property with property in lost/stolen registers.

iv) **Complaint and FIR Management Service:** The service shall enable the police personnel to register and process the complaints (FIR for cognizable complaints, Non-Cognizable Report for non-cognizable, Complaint Report for genera complaints, etc.) reported by the public.

v) **PCR Call Interface and Management Service:** The service shall enable the police personnel to register and process the complaints as received through the Police Control Room through the Dial 100 emergency contact number.

vi) **Investigation Management Service:** The service shall enable the police personnel to process the complaints through capturing the details collected during the investigation process that are required for the investigation officer to prepare a final report.

vii) **Court and Jail Interface and Prosecution Management Service:** The service shall enable the police personnel to interface with the courts and jails during the investigation process (for producing evidence, producing arrested, remand etc) and during the trial process.

viii) **Crime and Criminal Records and Query Management Service:** The service shall enable the police personnel to view various registers and perform basic and advanced queries on the crime and criminal information.

ix) **Police Email and Messaging Service:** The service shall enable the police personnel to send / receive, official as well as personal correspondence.

x) **Periodic Crime, and Law & Order Reports and Review Dashboard Service:** The service shall enable the police personnel to view relevant reports and dashboards and to conduct periodic crime, and law & order reviews of the police station(s) under the officer"s jurisdiction.

xi) **Notification of Alerts, Important Events, Reminders and Activity Calendar or Tasks Service:** The service shall capture / generate the required alerts, important events, reminders, activity calendar and tasks.

xii) **State-SCRB-NCRB Data Transfer and Management Service:** The service shall enable the States/UTs to collate, transform and transfer the crime, criminal, and other related data from state to NCRB.

xiii) **State CAS Administration and Configuration Management Service:** The service shall enable the individual State/UT to configure/ customize the application to suit to their unique requirements.

xiv) **User Help and Assistance Service:** The service shall enable the end user to view the help manuals of the application and in guiding the end user in using the application.

xv) **User Feedback Tracking and Resolution Service:** The service shall enable the police personnel in logging the issues/defects occurred while using the system.

xvi) **Activity Log Tracking and Audit Service:** The service shall capture the audit trail resulting from execution of a business process or system function.

xvii) **User Access and Authorization Management Service:** The service shall enable the administrative user in setting the access privileges and will provide authentication and authorization functionality.

Overview of the services for CAS (Centre)

i) **State-SCRB-NCRB Data Transfer and Management:** The service shall enable the NCRB to receive, transform, and collate the crime, criminal, and related data from States/UTs, to organize it suitably to serve NCRB requirements.

ii) **Crime and Criminal Reports:** The service shall enable authorized personnel to generate the reports and perform analysis on the central crime, criminals, and related data repository of the nation.

iii) **Crime and Criminal Records and Query Management:** The service shall enable the authorized personnel to view various registers and perform basic and advanced queries on the central crime, criminals, and related data repository of the nation.

iv) *Talaash* **Service:** The service will enable the user to search for missing persons across a central/ national database.

v) **Person of Interest:** The service will enable the user to search for persons of interest such as persons wanted on outstanding warrants, accused, charged, habitual offenders, and convicts across the national database.

vi) **Registered Vehicle and Vehicle of Interest Service:** The service will enable the user to search for registered vehicles and vehicles of interest such as, missing / stolen vehicles, abandoned / unclaimed vehicles, and vehicles involved in traffic incidents across the national database.

vii) **Publication Service:**This functionality will help the NCRB to publish the periodic crime reviews to the NCRB portal.

viii) **NCRB Citizen Interface:** The service shall enable the citizens to access/ search the NCRB National Database on the data (ex, Stolen Vehicles / Property, Missing Persons, etc.) that is approved to be made accessible to public.

ix) **NCRB Interface for RTI:** Due to the sensitivity of the information that pertains to national security and harmony, this service shall enable a limited and restricted access to the authorized external stakeholders to search the NCRB National Database, upon submission of any RTI requests.

Technical Specifications of CAS

One of the key goals of CCTNS is to provide a platform for accessing crime and criminals" related information across any police station or other police unit nationwide in real time (or near real time in areas where connectivity is low or unreliable). CAS is envisaged as a web-based application. However, considering the remote locations of many police stations and unreliable and low connectivity in some police stations, the CCTNS application architecture has also to enable offline functionality for critical services. The CAS should support a multi-lingual user interface and the SDA should provide CAS mandatorily with English and Hindi interfaces. Customization of CAS to support user interface in other languages will be carried out in States/UTs by the State SIs (with support from SDA). CAS should be built to support the same. The CCTNS system shall be integrated with the National e-Governance Service Delivery Gateway (NSDG) and the State e-Governance Service Delivery Gateway (SSDG) developed by Department of Information Technology, GOI for data exchanges between CAS applications (CAS (Centre) and CAS (State)) and external agencies and solutions both at Central and State levels such as e-Forms on State Portals. The CAS architecture should be at least 3-tiered and must include all necessary software components including but not limited to web servers, application servers, database and operating system. The SDA shall propose the solution and technology stack / platform that is based on the open standards, provide interoperability with other operating systems and application servers, guarantee portability of data and content and that best meets the specifications provided in the RFP. The SDA shall propose two additional stacks and port the solution to the two proposed additional stacks (where each of the licensed/proprietary solution / technology component proposed in one stack is distinct from the ones proposed in the other stack) in order to provide the flexibility to the State/ UT to select the platform that fits the existing infrastructure in the State and that best meets the State requirements.

CAS Application Architecture

The Core Application Software (CAS) architecture should be homogenous, simplistic, and light-weight. The SDA should explore the architectural patterns such as REST to keep the architecture simplistic and light weight.

CAS will have to be developed on an n-tiered model with clear separation between the presentation, business, and data tiers. Any communications with the external systems have to be executed through web services to retain the data-security. The definition of the screen elements, screen design, presentation side logic and validations should be retained in the presentation tier. The presentation logic should be able to be built and deployed as a separate entity. There should not be any data access or business logic in the presentation tier.

The business logic tier should contain all the modular application components, business logic and services that will be used by the presentation tier and any other external systems. The data access logic should be limited to data access tier and should be kept separate from the business logic tier. All the database access from the business logic tier should go through the data access tier.The application should be portable on multiple technology platforms / stacks.

State Solution Architecture

The System Integrator (SI) at the State will develop additional modules / applications and is responsible for integrating and deploying the additional modules / applications along with the CAS provided by the NCRB in the State Data Center. The SI is responsible for integrating the services from the multiple police applications in the State and deliver the services through:

a. Internet-based for providing services to citizens
b. Intranet-based for employees of the State Police Dept
c. Extranet-based for external stakeholders such as judiciary, and other government departments.

The State Police Portal will bring all services under its umbrella and provide a single point of access to the Police Personnel to avail the services. These service applications would be deployed on a uniform communication framework with each application communicating with the other only through application services interface. The services will be exposed through web services for client consumption.
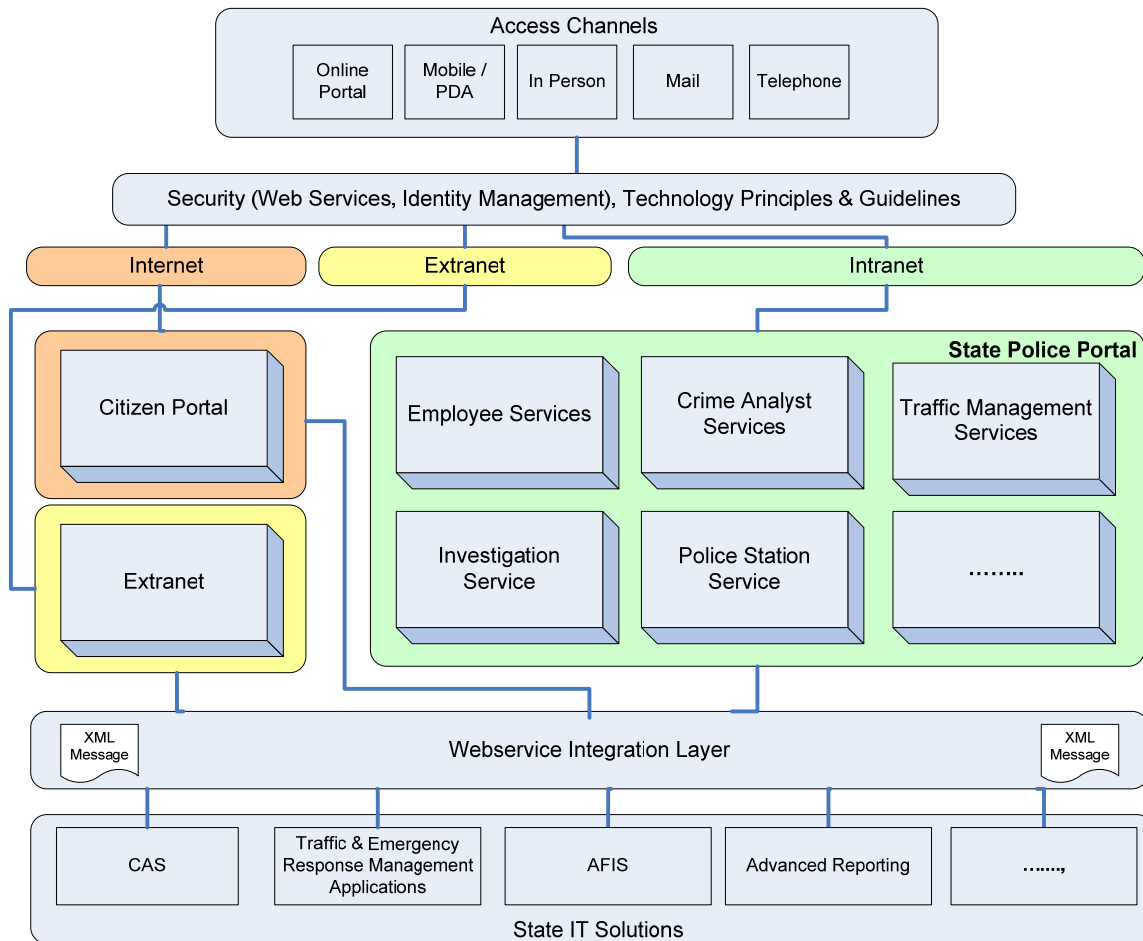
Figure: State Application Suite

NCRB Integration

The States will send the information on crimes, criminals, and lost/stolen property and various other entities to NCRB on a periodic basis. The formats and protocol will facilitate data transfer from the States to NCRB will be defined by the Software Development Agency (SDA). The information or the updates will have to be extracted from the State databases, transformed into the formats mandated by NCRB and sent to the NCRB on a periodic basis. The data from multiple States will run through a data quality process at the NCRB and aggregated into the national databases at NCRB.

The information systems developed for NCRB will utilize the data to provide the required reporting at NCRB and an country-wide integrated analysis and views to the States.
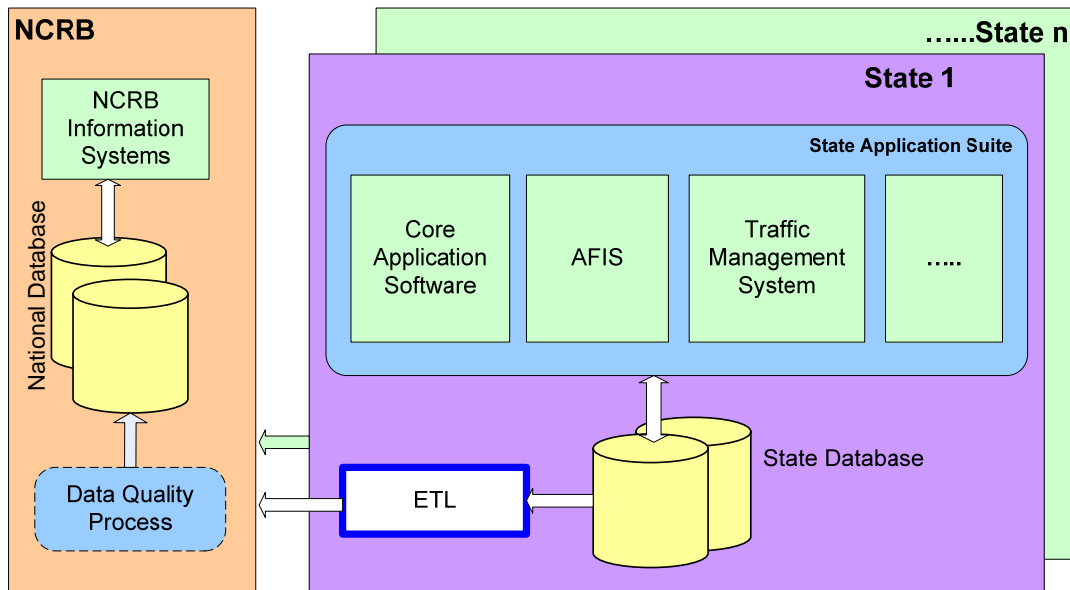
Figure: State and NCRB Integration Architecture

Reports

General Diary: General diary is the detailed diary of Police Station. Each and every activity in the Police Station including the movements of the staff, complaints, Investigation, arrests, sending and receiving the documents etc., must be recorded in the General Diary.

FIR – Index: FIR – Index is main register that keeps the progress of case that is registered in that Police Station. Basically, it keeps track of each case whenever certain conclusions are made. It becomes the reference guide for SHO to tell the status of every case. This register is updated from time to time.

Petty Case Register: All the petty cases should be entered into Petty Case Register. All the petty cases must be forwarded to magistrate for immediate action. Magistrate judges the case on the same day. Petty Case Register keeps the progress of each and every petty case that is registered in that Police Station. Basically it keep track of each case whenever certain conclusions are made on that case. It is updated from time to time.

Station Crime History - I: This Register is maintained permanently in the Police Station which keeps the information of all the True Property Offences that took place in that jurisdiction. It also helps as a reference guide for all the True Property Offences, so when a new officer takes charge in that Police Station it becomes easy to go through the register and update him self.

Station Crime History – II: This is a geographical map of jurisdiction of Police Station where in all the geographical locations and landmarks are marked. All the crimes occurred in that jurisdiction and border Police Stations will be marked on the map so as to give the graphical representation of the crime rate in that jurisdiction. It will be updated from time to time. The map is divided into beats to facilitate night patrolling by the beat constables.

Station Crime History – III: This is the General Conviction Register. This Register is maintained permanently in the Police Station, which keeps the information on the conviction details of the criminals. It also helps as a reference guide for all the convicted criminals.

Station Crime History – IV: This register is maintained in Police Station, which keeps track the information of the crime prone areas. E.g., Suspected Gambling & Gambling houses, suspected opium smokers & opium dens & opium smugglers, Notorious Rowdies, festivals, factions etc., The main objective of maintaining this register is when a new officer takes the charge it is easy to him/her to know about his jurisdiction.

Station Crime History – V: This register is called as City Dossier Criminal (CDC) File. This is maintained in Police Station in order to have the information of Rowdy Sheeters and Known Dossiers/Depredator (KDs) in that Jurisdiction. If a criminal, related to property, was convicted for a minimum of 3 times, PS prepares to copies of CDC file and sends one copy to ask permission from ACP to mark him as KD. Then ACP forwards this file to Detective Dept (DD). DD gives CDC No and informs PS about it and thereafter that criminal is called as a KD. CDC mainly contains the information of all the cases in which a particular Rowdy Sheeter or KD is involved. The activities of the KD would be closely watched. This register is updated from time to time.

Case Diary I and II: This case diary is very important for any case. Whenever an Investigating officer goes for an investigation on a particular case he has to write a case diary of the case. This case diary will be sending to higher officials in order to update the case status. The Investigating officer should write the case diary till the case is under investigation. Part I of case diary briefly describes the investigation results by the IO. Part II of case diary contains statements of witness/complainant/others.

Court Calendar Diary: When the charge sheet of a case submitted to the court, the investigating officer (IO) records all the proceedings of the court in Court Calendar Diary. Its keep tracks the status of the case at the court.

Conviction Memo: If an accused is convicted in the court and resides in the jurisdiction of other PS, then a copy of convicted memo is sent to the concerned PS, Detective Dept and Finger Print Bureau.

Crime Abstract: It is a report prepared quarterly, about the crime rate for each head of crime. It facilitates the analysis of crime rate in the jurisdiction of PS.

Ex-convict Register: This register maintains all the ex-convicts and the details of the crime in which they are involved. It is updated from time to time.

Register of Process: This register maintains all the details of summons and warrants. Court can issue a summon to the witness/accused to attend the court. If the summonee is absent for a couple of times for the earlier summons issued, the court can issue either bailable or non- bailable warrant.

Alphabetical Loose Leaf Index Register: This Register is very useful for the investigating officer in Investigation. It mainly keeps the index of the convicted persons i.e. to which village he/she belongs, property that was lost in his previous offences, and the personal information of the criminal including the relatives concerned. It also have the details of Crime No., Modus Operandi he has adapted before.

Property Seized Register: The details of the seized property related to the case Under Investigation (UI) are entered in this register.

Crime Occurrence (C&O) Sheet: DCP (DD) sends Crime Occurrence sheet to every Police Station every day, so as to verify the criminal details & FIRs registered (PS wise) etc.,

Crime Digest: The case details like date of report, Modus operandii, nature of property (lost & recovered), brief facts and progress of the case, result of investigation and disposal of the case, The date of preparation of Case Diaries etc., will be captured in Crime Digest.

Fingerprint Search Slips: In the Process of investigation the IO will take the necessary finger prints of the accused in this document and sends it for the investigation to the State Fingerprints Bureau. This department will write the necessary comments on sends back the same and this document is maintained in Police Station.

Gun License Register: In this register License details of the guns, gun holder details, capacity of the gun, valid upto date etc., would be maintained.

Inward Register: Any document, which comes to PS from ACP or DCP or Commissionerate (CP), will have an entry made in the Inward Register.

Outward Register: Any document, which goes from PS to ACP or DCP or Commissionorate (CP), will have an entry made in the outward Register.

Small Service Book: The personal details such as date of birth, caste, educational details etc., of the staff of Police Station along with the date of joining in the service, date of promotion to each rank, transfer details, Size & measurements and clothing account are recorded in this book.
Arms Deposit Register: The details of the arms and its license holder name and address etc., are entered in this register.

Duty Roster: The details of the nature of the duty and attendance of the staff are recorded in this register

Duty Roster of Police Men Daily: Timings of the beat duty of the constables and General Detachment details like sanctioned strength, actual strength, leave, sick & absent, attachment and available for duty are maintained in this register.

Message Register: The message/information received through wireless set (VHF set) is recorded in the message register.

Government Property Register: The details of arms, ammunition, motor transport, tear gas materials, furniture details etc., are maintained in this register.

Stores Register: Quarterly, the details of opening and closing balances of the materials are maintained in this register.

Prisoners Search Register: The details of prisoner, date & time of taken into custody, date & time of release and property found on his person are maintained in this register.

Clothing Acquittance Register: The dress details of the staff are maintained in this register.

Leave Register: The leave details of the staff are maintained in this register.

Check Register of KD's and Suspects: Attendance register for KD's and Suspects in the jurisdiction of PS. KD's and Suspects attendance is carefully observed.

Tappal Book: The references of all the documents sent/received to/from Divisional Office (ACP), Zonal Office (DCP) from/to Police Station are maintained in this book. Also, once the document is dispatched, confirmation from the destination is obtained by taking the signature in the Tappal Book.

Sentry Relief Book: The arm details and timings at the time of the charge & discharge of duty would be recorded in the Sentry Relief Book.

Sample Signature Book: The signatures of the citizens for further references are maintained in the Sample Signature Book.

Beat Book: The details of the beat timings, area covered and the beat constable no. etc., would be recorded in this register.

ACP/Gazette Officer Visiting/Inspection Book: ACP or any Gazette Officer visits the Police Station periodically (usually ACP visits monthly and inspects yearly, DCP inspects once in 3 years) and can either write his comments / suggestions in this book with his own hand writing or sends a report to PS on his visit / inspection. These details are recorded in this register.

Compliance Report: The reply or action taken to the comments or suggestions made by ACP/Gazetted Officer is called the compliance Report. PS Maintains the Compliance Report.

Reports

The following are indicative reports generated monthly at the Police Station.

1. Statement - I : Statement of Crime for current month, previous month and corresponding month of last year
2. Statement - II: Comparative statement of crime for the current year upto & corresponding periods of last 2 years upto.
3. Statement - III : Comparative statement of crime for the last three years
4. Statement - IV : Statement showing the crime progress for the month
5. Statement - V : Statement showing pending Trial(PT) & Under Investigation (UI) cases
6. Statement - VI : Progress of sessions trial cases for the month
7. Statement - VII : Cases disposed of by courts during the month
8. Statement - VIII : Number of accused arrested during the month
9. Statement - IX : NBWs/Summons Executed/Served for the month
10. Statement -X : Review of UI cases for the month
11. Statement -XI : Review of Pending Trial(PT) cases for the month
12. Statement -XII : Crime against women for the month
13. Statement -XIII : Crime against SC/ST for the month
14. Statement -XIV : Statement showing accidents of twin cities for the month
15. Statement -XV : Statement showing automobile theft cases of two, three and four wheelers for the month
16. Statement - XVI : Comparative statement of Petty cases for the current year as on and last two years
17. Statement - XVII : Cases Booked Under Special & Local Laws
18. Statement - XVIII : Comparative statement of Crime Against Women for the month (statement 1, statement 2, statement 3)
19. Statement - XIX : Automobile theft Cases & Recovered Cases During the Month of
20. Statement - XX : Arms/Ammunition Lost & Recovered
21. Statement - XXI : Cultural Property Lost & Recovered
22. Statement - XXII : Pending trial Cases in all Courts other than sessions as on
23. Statement - XXIII : All U.I Cases Pending in the Police Station Year Wise
24. Statement - XXIV : Petty Cases Reported During the month
25. Statement - XXV : Cases of atrocities against SC/STs & their disposals of Police Station
26. Statement - XXVI : Pending Trial Cases in Sessions
27. Statement - XXVII : Split Up Cases
28. Statement - XXVIII : Non-Bailable Warrants of Police Station for the month
29. Monthly statement of initial figures I for the month
30. Monthly returns of the various aspects cases under various head of IPC cases and SPL and Local Laws during the month

31. Statement showing the initial figures for the month of
32. Statement showing the cases disposed off by the court during the month
33. Statement showing the cases disposals of other than the court during the month
34. Information on Gambling, Matka Den, Prostitution in the month
35. Information on clubs running and closed in the district for quarter ending
36. Statement showing the teleconference of chief minister of AP for the fortnight of
37. Daily situation report of Police Station for the day.
38. Guards checking report at the residences of VIP's and Government offices at the night of in the limits of Police Station