NYS Division of Criminal Justice Services: CCH Repository

Client Challenge:

NYS Division of Criminal Justice Services serves more than 2000 New York law enforcement agencies, the courts and FBI by hosting the repository of criminal history records for New York State. NYS DCJS legacy system was implemented partially on the Mainframe (40%) side and remaining system on the Forte system (60%). The records were entered on the Forte system through Fingerprint process and maintained on the Mainframe side. The conversion process (ran every 15 mins.) brought the records (delta) from Mainframe DB to Oracle database. The RAPSheet was generated on the Forte side using Oracle database. The Forte system was also responsible for allowing DCJS internal users to manage fingerprint data using web user interface. The system supported Juvenile offender records and adult criminal records in single repository.

GCOM was responsible for the reengineering of Mainframe based Criminal History Repository using Java, JEE technologies and the building of new maintenance user interface in the new Portal environment. NYS DCJS had the following key goals in mind:

> History service must be easy to maintain and follow the new IJ architecture pattern and use common services.
> Business rules should be externalized.
> CCH should be event driven.
> The domain model should be flexible to allow addition of new events and attributes.
> CCH should return data based on requestor and reason for the request.
> New CCH application should be based on SOA.
> User should have single point of entry in the application.
> New application should use NY Directory Structure (LDAP) and support Single Sign On.

The Solution:

GCOM team implemented the new system based on SOA principles and implemented the following functionality:

> Architectural Framework for new DCJS applications which will be deployed on Java, JEE platform.
> Defined new flexible and extensible data model.
> Implemented different coarse grained and fine grained (business and data) services to perform following tasks:
  - Process fingerprint events.
  - Implemented event validation and error reporting.
  - Following events were implemented.
    1. Arrest
    2. Parole Release
    3. Parole Discharge
    4. Probation
    5. Death
    6. Correction Admission
    7. Correction Release
    8. Civil
  - Implemented event association rules.

›   Defined publish and subscribe model to publish notification related to history changes.

›   Implemented suppression (redaction) rules based on the NYS Statute.

›   Implemented business rules using JBoss Drools rules engine.

›   Implemented Rap Generator service on top of CCH to generate RAPSheets in various formats. Interfaced with NCIC, III, FBI and NLETS to collect warrants, orders or protections and Out of State RAP sheets (CR) via NLETs.

›   Implemented Out of State Name query (IQ, IR) and RAPSheet queries (FQ, FR).

›   Implemented integration with Photo Repository system to retrieve mug shots.

›   Implemented person search service to find a unique person in the CCH database based on person demographic data and other identifiers like SID, FBI # etc.

›   Implemented interfaces with III, FBI as part of CCH update.

›   Developed customer facing (internal and external) user interface applications to perform following tasks:

   a.   Generate RAP Sheet for given purpose code. Examples are background check, record review etc.
   b.   Event Maintenance user interface to maintain (insert, modify, and delete) CCH events.
   c.   Dashboard to perform various work items like SID consolidation, Seal (event, cycle and history), Purge events abd cycles, STOP RAP etc.
   d.   SID subscription screen to generate notification when CCH is updated.
   e.   User interface screen to maintain court data (Disposition Maintenance).
   f.   User interface to update SID Status (supplied e.g. DNA)

›   Developed ETP process using Oracle ODI to extract CCH data for statistical and research departments,

The newly designed system processes more than 70,000 (fingerprint, event maintenance, dispositions) histories per day with an average response time of less than 4 seconds.

Why GCOM?

GCOM isn't your typical government solutions provider. GCOM combines the scale to support large complex projects with the agility and accessibility of a boutique solutions provider giving state and local government leaders a third option when looking for a partner to help modernize operations and optimize digital engagement. And we've earned a reputation for innovation and reliability by helping clients leverage cutting edge technology while mitigating risk. Whether it's helping governments transition to virtual working, incorporating biometric ID to give physicians anywhere anytime access to vital records, providing local law enforcement with complete criminal histories on-demand, or data integration platforms that monitor community health, GCOM's innovative, next generation government solutions improve operations and deliver more value to the communities they serve.