OpenFox® HotFiles 2.0

CPI's OpenFox® Hotfiles Application (HFA) 2.0 helps manage and control intrastate and NCIC records for efficient record sharing. The application is implemented in SQL Server or Oracle technology and is fully integrated with the OpenFox® Message Switch. The all new HFA 2.0 leverages CPI's patent-pending NCIC sync technology first developed for CPI's Sex Offender Registry 2.0 solution. The new and improved design has enhanced performance and flexibility. The following principles and functionality explain why the development of HFA 2.0 has significantly improved CPI's HotFiles product.

OpenFox® HFA 2.0 Design

HotFiles Application (HFA) 2.0 Design Principles:

➢ Complete NCIC compliance

➢ Enhanced performance

➢ Enhanced flexibility

➢ Improved ease of maintenance

➢ Robust query functionalities

➢ Flexible reporting capabilities

Upgraded NCIC Compliance:

➢ Leverage patent pending NCIC sync technology

➢ New NCIC data model

  o Handle both letter O and zero for record matching

➢ Handle NCIC unsolicited messages

➢ Send unsolicited messages for local only records

➢ Validation and reporting capabilities

Hibernate Framework:

➢ **Underlying database independent**

  o Data migration is still necessary for the refresh, however, the business rules implemented in the Fennec Broker will not change.

  o All the state customizations will remain, no discovery, no re-testing.

  o Very low risk and minimum impact

- **Code auto-generation**
- **More robust data retrieval**
  - Easy to implement for queries - e.g. QW, QV: Instead of querying each file and congregating them together, hibernate can retrieve all the person files that match the query.
- **In Conjunction with data structure redesign**

Real-time Replication Reporting Database:

- Enhanced Flexibility
- No negative impact on production database performance
- Soft delete feature allows reports on purged records

Backend Upgrade – Fennec Broker
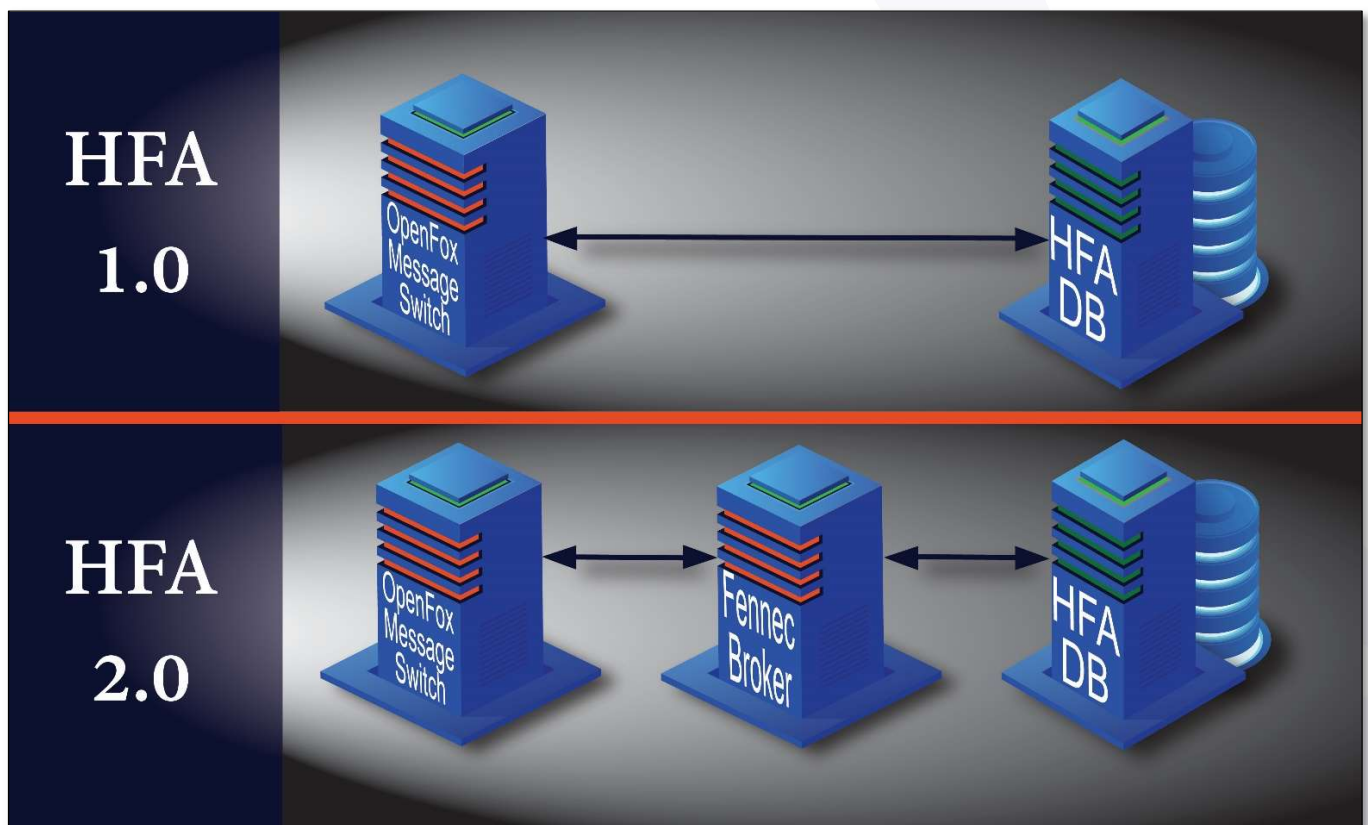
Fennec Broker platform:

➢ Java middle tier app

    o   Moved the programming logic into a Java middle tier app

➢ Powerful Language

    o   More powerful programing platform

➢ Platform independent (AIX, Linux)

➢ Database independent (Oracle, SQL) – DB becomes data store

FLEXIBILITY & EFFICIENCY

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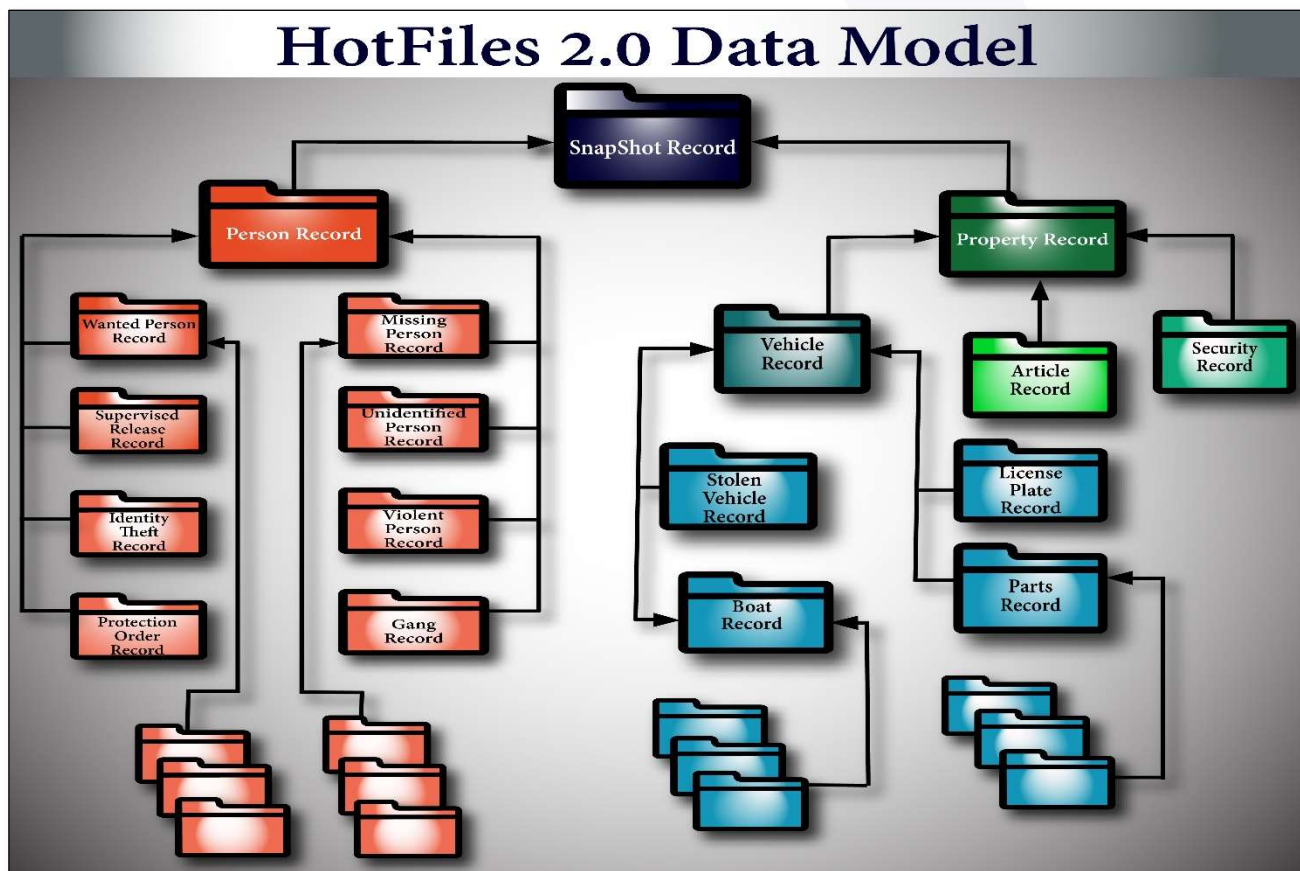
To further improve our product to enhance the HFA flexibility and efficiency, we applied Object Oriented Programming (OOP) principles in our design:

- **Record Snapshot**: A record snapshot is a snapshot of a hot file record at a specific time which contains all the information for the record. In the above diagram, the top-level 'Snapshot Record' contains all the common elements of all different record snapshot.

- **Hierarchy Concept:** CPI has implemented the hierarchy concept in the new data models so that we can reuse code instead of code duplication. This means commonalities are extracted to the upper levels.

- **Less code, means less bugs, easier to maintain, and supreme quality.**

- **Ease of maintenance**: Maintaining the code simplifies processes such as TOU updates or adding a Facebook profile to the 'All Person Record' using a central location for code changes.
- **Enhanced flexibility**: When enhancing or updating client specific requirements, no other clients will be impacted.

HFA 2.0 Process Flow
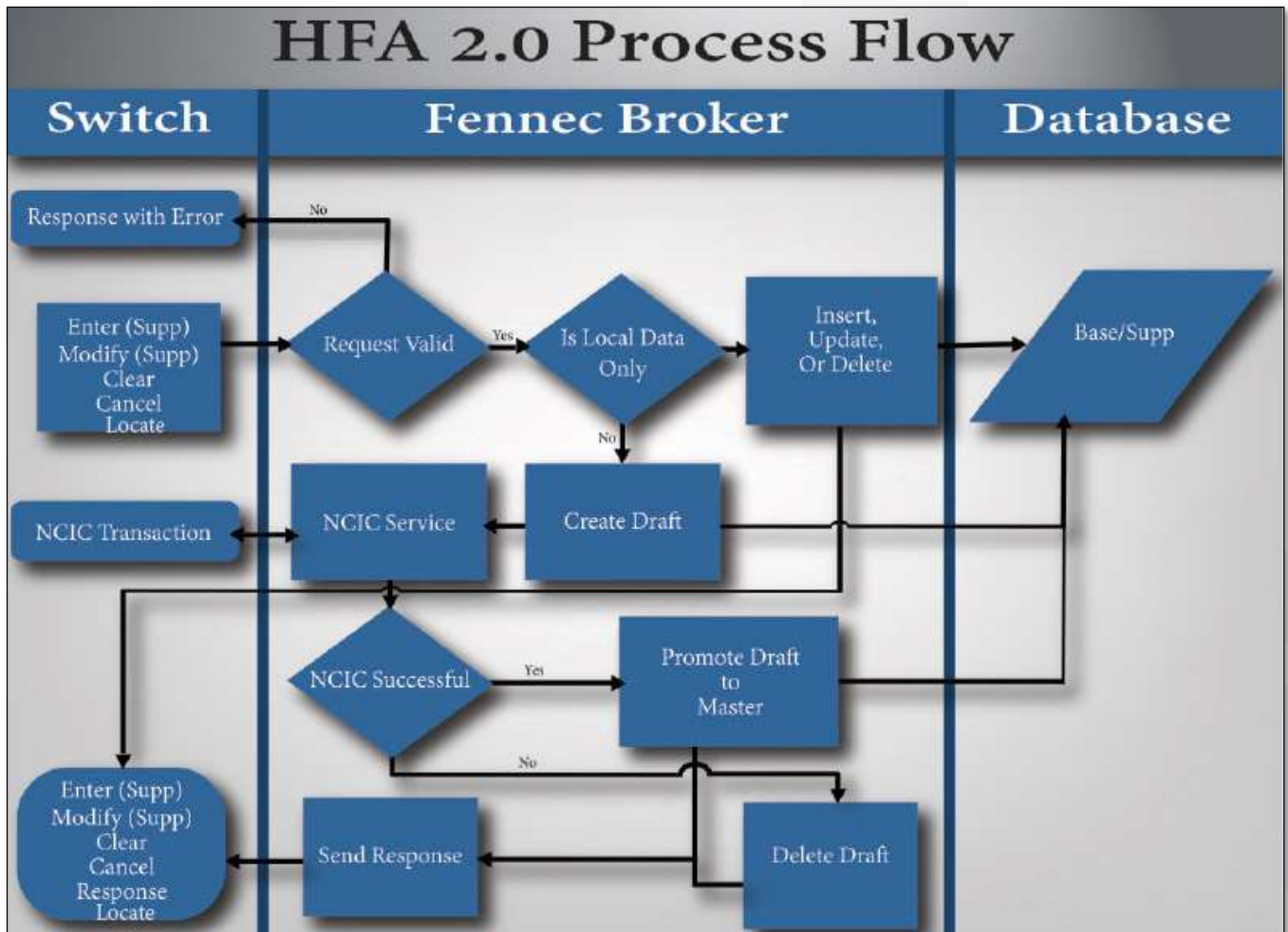
Implementation

- ➢ **Agile delivery**

  - o Deliver immediately working product - vanilla - but supports NCIC based transactions and NCIC sync

  - o Sprint 1 is wanted and missing person records - start with working product, use it, make customizations - test them

  - o Move onto Sprint 2 - vehicles - rinse and repeat

- ➢ **Advantages of Agile**

  - o Customer can access and test product earlier, if changes need to be done will catch earlier.

  - o Faster development, engineer can work on Sprint Two while customers are testing for Sprint One.

- ➢ **Automated Testing to Ensure Quality**