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# Global Justice XML Data Model

## Use Case

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Automated Regional Justice Information System

Field Interview



# *ARJIS*

## JPA – JOINT POWERS AGENCY

- A Joint Exercise of Powers Agency (JPA) in compliance with California Government Code Sections 6500-6530. – 50 Local, State, and Federal Agencies covering SD & Imperial Counties

## ARJIS VISION

- Recognized for leadership, collaboration, information sharing, and regional acquisition of effective information technology.
- Uses community partnerships and regional information technology to address and anticipate public safety issues and to improve the quality of life.

# **ARJIS MEMBER AGENCIES**

Carlsbad Police Department  
Chula Vista Police Department  
Coronado Police Department  
El Cajon Police Department  
Escondido Police Department  
La Mesa Police Department  
National City Police Department  
Oceanside Police Department  
San Diego County Sheriff  
San Diego Police Department

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# *ARJIS MEMBER AGENCIES*

California Department of Insurance  
California Department of Justice (DOJ)  
California Department of Parks & Recreation  
California Department of Insurance  
Donovan Correctional Facility  
Federal Bureau of Investigations (FBI)  
Internal Revenue Service (IRS)  
Naval Criminal Investigative Service  
Palomar Community College Police  
San Diego City Schools Police  
San Diego Community College Police  
San Diego State University Police  
San Diego Superior Court  
San Diego City Attorney  
San Diego Probation Department  
San Diego Medical Examiner  
San Diego District Attorney  
US Naval NSSO (Federal Protection)

Southwest Community College Police  
Unified Port District Harbor Police  
UCSD Police  
U.S. Attorney  
U.S. Border Patrol  
U.S. Bureau of Alcohol, Tobacco & Firearms  
U.S. Coast Guard  
U.S. Customs Service  
U.S. Department of State  
U.S. Drug Enforcement Administration (DEA)  
U.S. Forest Service  
U.S. Immigration & Naturalization Service  
U.S. Marshal  
U.S. Naval Brig-Miramar  
U.S. Postal Inspectors  
U.S. Probation  
U.S. Pretrial  
U.S. Secret Service  
Imperial County Sheriff's Department (LECC)

# ARJIS Strategic Framework

## Records Management System

- Agency Process Specific
- FBI Mandated Reporting
- Evidence & Property Inventory
- Lab Analysis
- Personnel & Resource Management
- Case Management
- Agency Document and Photo Storage
- Regional and Agency Validations Standards
- Document Retrieval

## Regional Data Exchange

- Data Distribution Clearinghouse
- Validation Rules Management
- Data Translator
- Publish/Subscribe Routing
- Alerts/Notifications Routing
- Transfer to External Databases

## Regional Data Warehouse

- Regional Repository of Justice data
- Photo and Document Pointers to external data
- Regional Validation Tables
- Stored State & Federal Applications/Data

## Automated Field Reporting

- Field and Office Data Input
- Regional and Agency Validation Standards

## External Interfaces

- CLETS/NCIC/DMV
- Joint Terrorism Task Force
- DOJ Cal-Photo

## Specialized Investigations

- Domestic Violence
- Registered Sex Offender
- Cal-Gang

## Regional Applications

- Offender Identification
- Officer Notification
- Global Query
- Photo Retrieval
- Mapping
- Data Mining
- Crime Analysis
- Crime Statistics
- Crime Trends/Forecasting
- Link Analysis
- Publish/Subscribe

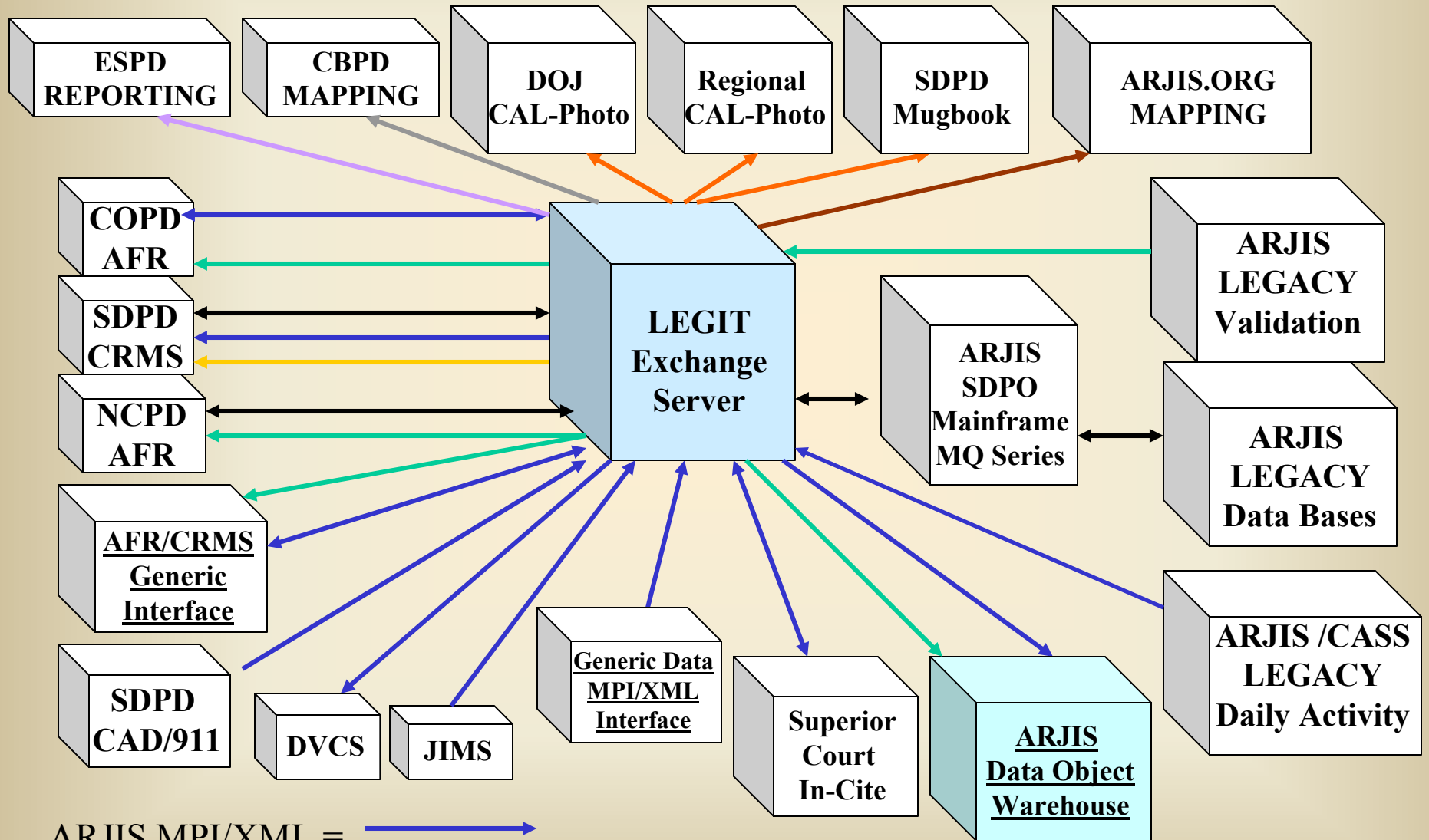
# *Current Legit Solution*

- **L**aw **E**nforcement **G**lobal **I**nformation **T**ransport
  - Wide Area Network (ARJIS-Net)
  - IBM Websphere MQ Series
  - Hub & Spoke Information Exchange Distribution and Query
  - ARJIS Transport MPI/XML Version 1.0 Object Model

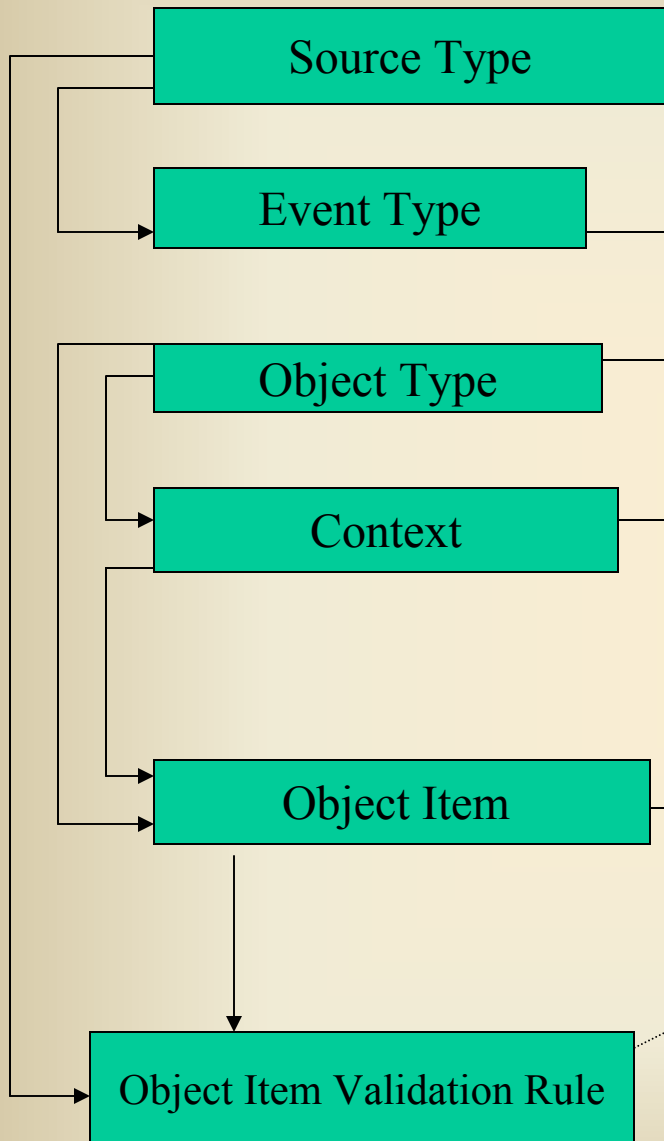
## *Benefits in Using Standardized XML Message Model*

- Application and Database Product Independent
  - SAS, Cobol, Java, C++, etc.
  - Templar, Spawar, SAIC, KnowledgeWare, Orion, etc.
- Reusable Across Jurisdiction
  - Hampton Roads CRIMES network.
  - Florida Department of Law Enforcement (FDLE) Office of Statewide Intelligence (OSI).
  - The Oregon State Police (OSP)
- Easier to Route, Translate, Separate & Publish Data
- Easier to Manage
- Reduces Costs and Confusion

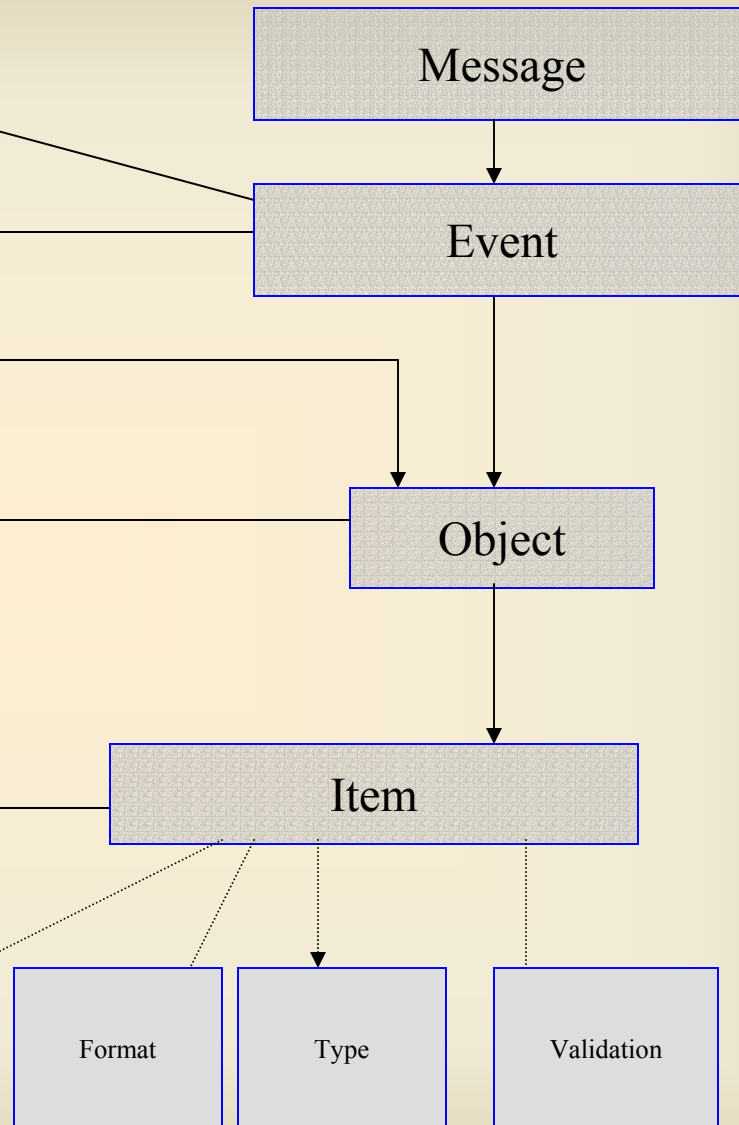
# FY 2004 PRODUCTION EXCHANGE AND MPI/XML DISTRIBUTION



## MPI Structures



## MPI Message Content



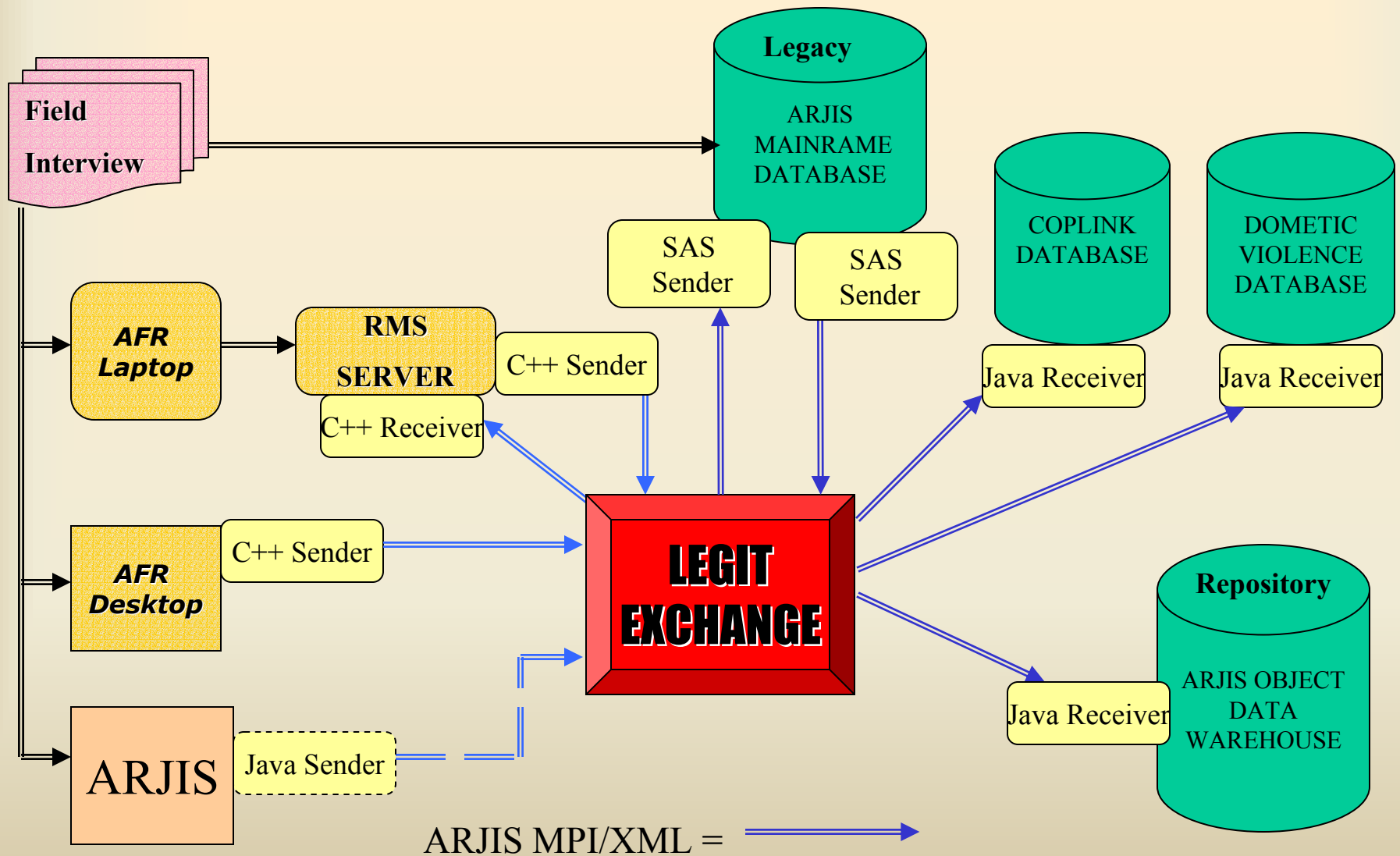
# Field Interview Document

**SAN DIEGO REGIONAL  
FIELD INTERVIEW REPORT**

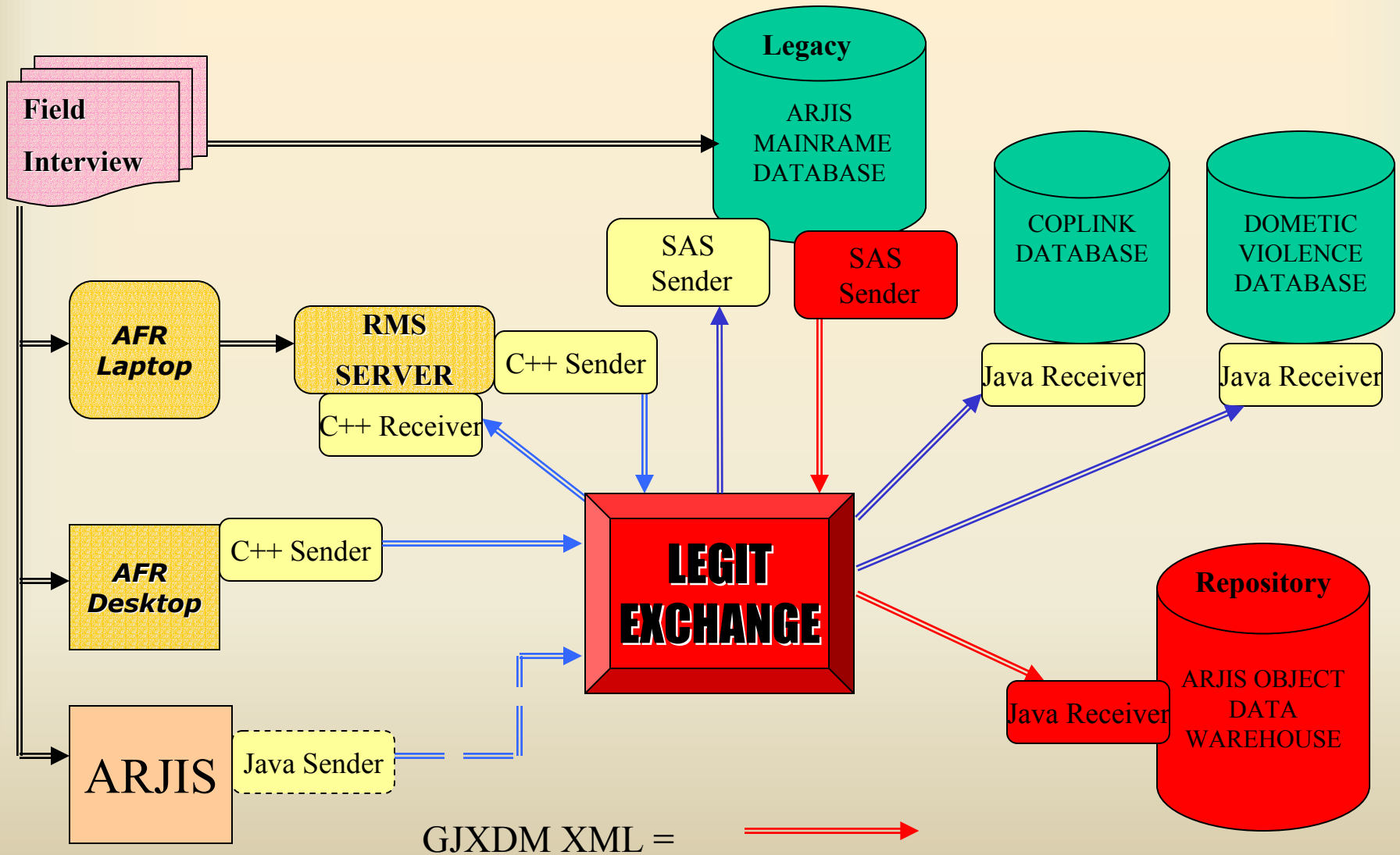
AGENCY	DATE	TIME	ASINN RELATED	<input type="checkbox"/> Y	<input type="checkbox"/> N	
LOCATION OF INTERVIEW						
NAME (LAST NAME FIRST)						
NICKNAME/AKA			PHONE #			
RESIDENCE ADDRESS (CITY/STATE)						
SOC. SEC. NO.	RACE	SEX	HAIR	EYES	HT.	WT.
JOB	DRIV. LIC. NO.		STATE			
PHYSICAL ODDITIES (SCARS, ETC.)						
CLOTHING WORN			VEH. LIC. NO./STATE			
VEH.	YEAR	MAKE	MODEL	COLOR	TYPE	
COMPANION 1 (LAST NAME FIRST)						
RACE	SEX	D.O.B.	HAIR	EYES	HT.	WT.
COMPANION 2 (LAST NAME FIRST)						
RACE	SEX	D.O.B.	HAIR	EYES	HT.	WT.
CRIME POTENTIAL (2 VIOL. MAXIMUM)			REMARKS (REASON FOR CONTACT)			
<b>VEHICLE</b>			<b>PHYSICAL</b>			
<input type="checkbox"/> DAMAGE-FRONT	<input type="checkbox"/> RUST/PRIMER	<input type="checkbox"/> CUSTOM WHEELS	<input type="checkbox"/> LONG	<input type="checkbox"/> LIGHT		
<input type="checkbox"/> DAMAGE-REAR	<input type="checkbox"/> VINYL TOP	<input type="checkbox"/> DECAL/EMBLEM	<input type="checkbox"/> SHORT	<input type="checkbox"/> DARK		
<input type="checkbox"/> DAMAGE-RIGHT	<input type="checkbox"/> UNIQUE EXT.	<input type="checkbox"/> CUSTOM COLOR	<input type="checkbox"/> BALD/THINNING	<input type="checkbox"/> ACNE		
<input type="checkbox"/> DAMAGE-LEFT	<input type="checkbox"/> UNIQUE INT.	<input type="checkbox"/> CAMPER SHELL	<input type="checkbox"/> AFRO/NATURAL	<input type="checkbox"/> THIN		
<input type="checkbox"/> FRONT LOWERED	<input type="checkbox"/> REAR LOWERED		<input type="checkbox"/> WAVY/CURLY	<input type="checkbox"/> HEAVY		
<input type="checkbox"/> FRONT RAISED	<input type="checkbox"/> REAR RAISED		<input type="checkbox"/> BRAIDED/PONYTAIL	<input type="checkbox"/> MUSCULAR		
<input type="checkbox"/> REAR LOWERED			<input type="checkbox"/> BEARD	<input type="checkbox"/> GLASSES		
<input type="checkbox"/> REAR RAISED			<input type="checkbox"/> GOATEE			
INT. COLOR (_____)			<input type="checkbox"/> MUSTACHE			
			<input type="checkbox"/> FACE			
OFFICER	I.D. NO.		BEAT OF OCCURRENCE			

ARJIS-1 (4-99)

# Field Interview Data/Message Flow



# GJXDM Use Case Message Flow



## *Use Case Scenario*

- Obtain and Review Reference Information
- Convert MPI/XML Naming Standard to GJXDM Standards
- Created a GJXDM XML Data Stream
- Modify Existing Sender and Receiver Applications to Utilized New GJXDM XML Data Stream
- Alpha Test and Compare Against Existing Production Interface
- Create GJXDM Reference Document Schema
- Obtain GJXDM Validation/Compliance for the Reference Document

## *Step 1: Obtain and Review Reference Material*

- Visited the Global Justice XML Data Model Web Site (<http://it.ojp.gov/jxdm>) and Obtained the Following:
  - Microsoft Excel spreadsheet of types and properties -jxdm-3.0.xls
  - The justice data model, less verbose version. - jxdm.xsd
- Attempted to Find a ‘Compliant’ Reference Document :
  - Incident Report – old GJXDM version
  - Amber Alert - <http://www.ojp.gov/amberalert/standards.html>
- Participated in the Listserv and Obtained the Following :
  - Rules for Creating a Subset Schema  
<http://justicexml.gtri.gatech.edu/technical/schema-subset-rules/index.html>

## *Step 2: Convert MPI/XML Naming Standard to GJXDM Standards*

- Mapped MPI/XML Objects to the GJXDM Standards as follows:

- Simple Items to Simple Items

firstName	PersonSurName
lastName	PersonGivenName
middleName	PersonMiddleName

- Sub Objects to Complex Types

PersonName	PersonName
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- Objects to Super Types

Person	Person
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## *Step 3: Created a GJXDM XML Data Stream*

- Copied Amber Alert XML Stream in Notepad and Remapped Super Types, Complex Types and Simple Item Names
- Converted Context into Object Id references (attribute)

- Example :

```
<jxdd:Person jxdd:id="Subject1">  
  <jxdd:PersonName jxdd:id="Prime1">  
    <jxdd:PersonGivenName></jxdd:PersonGivenName>  
    <jxdd:PersonMiddleName></jxdd:PersonMiddleName>  
    <jxdd:PersonSurName></jxdd:PersonSurName>  
  </jxdd:PersonName>  
</jxdd:Person >
```

- Opened Notepad Version in XMLPad to Validate Finished XML Data Stream

## *Step 4: Modify Existing Sender and Receiver Applications and Processes*

- Modify SAS Sender
- Modify SQL Script for Power Table that Maps XML Names to Database Columns
- Create New SQL Script to Use GJXDM Names
- Create Test Power Table and Database
- Alpha Test Load Process using SAS Sender, Exchange and Java Receiver.

## *Step 5: Alpha Test and Compare Against Existing Production Interface*

- Message Size
- Process Time
- Problems/Issues
- Lessons Learned
- Conclusions

## *Step 6: Create JXDD Reference Document Schema*

- Load XML Message into XMLSpy
- Using the Amber Alert Reference Document Schema as an Example, Create Field Interview Schema
- Test Schema Against XML Messages

***Step 7: Obtain JXDD Validation/Compliance for  
the Reference Document***

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*Thank You*

**Questions?**