

S.R.F.E.R.S.

State, Regional, and Federal
Enterprise Retrieval System

Inter-Agency & Inter-State
Integration Using GJXML

GOAL

Regional Data Sharing

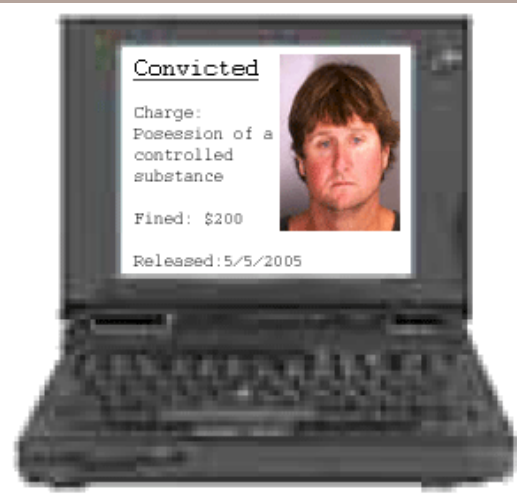
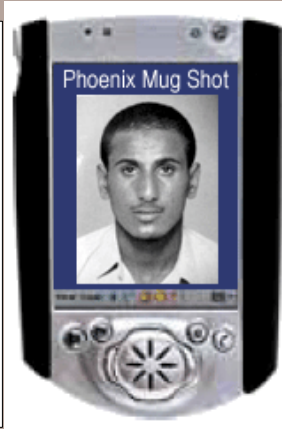
- 80% of justice data at local level
- Largely invisible

Use existing infrastructure and GJXML to build a system for sharing regional data.

Flexible Point to Point Data Sharing

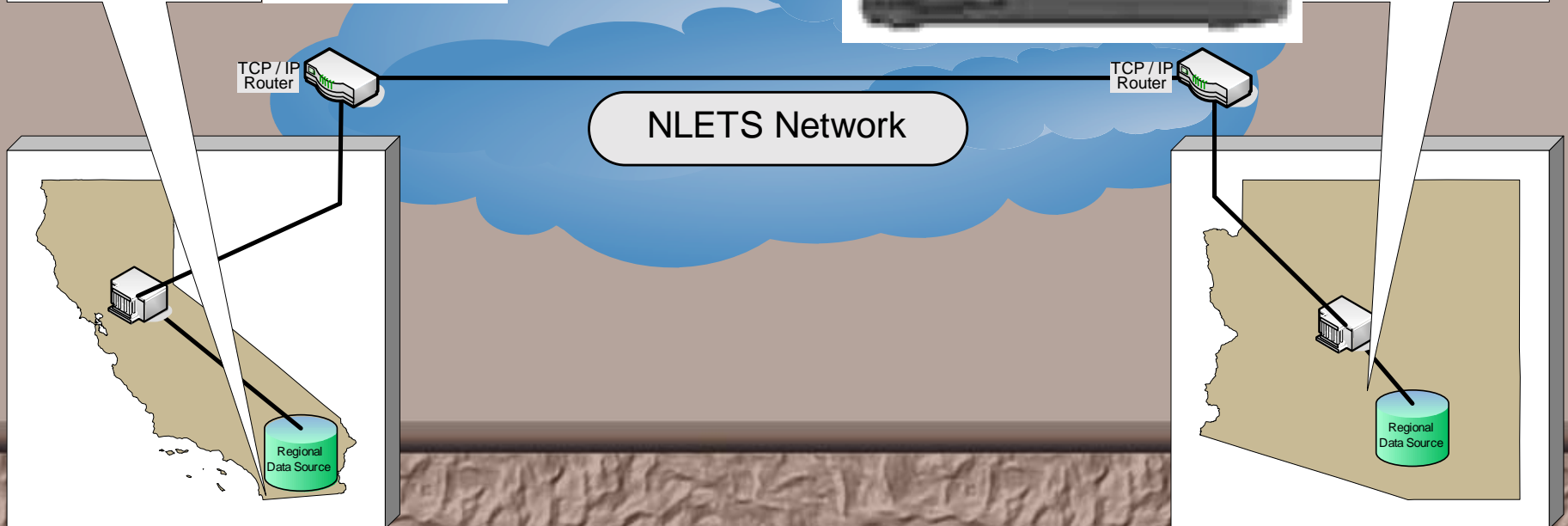
In San Diego an officer runs the name of a suspect through their hand held Global Query application. No match is found in the San Diego records, but...

A Phoenix booking is returned. The officer pulls up the booking photo and a witness makes a positive ID.

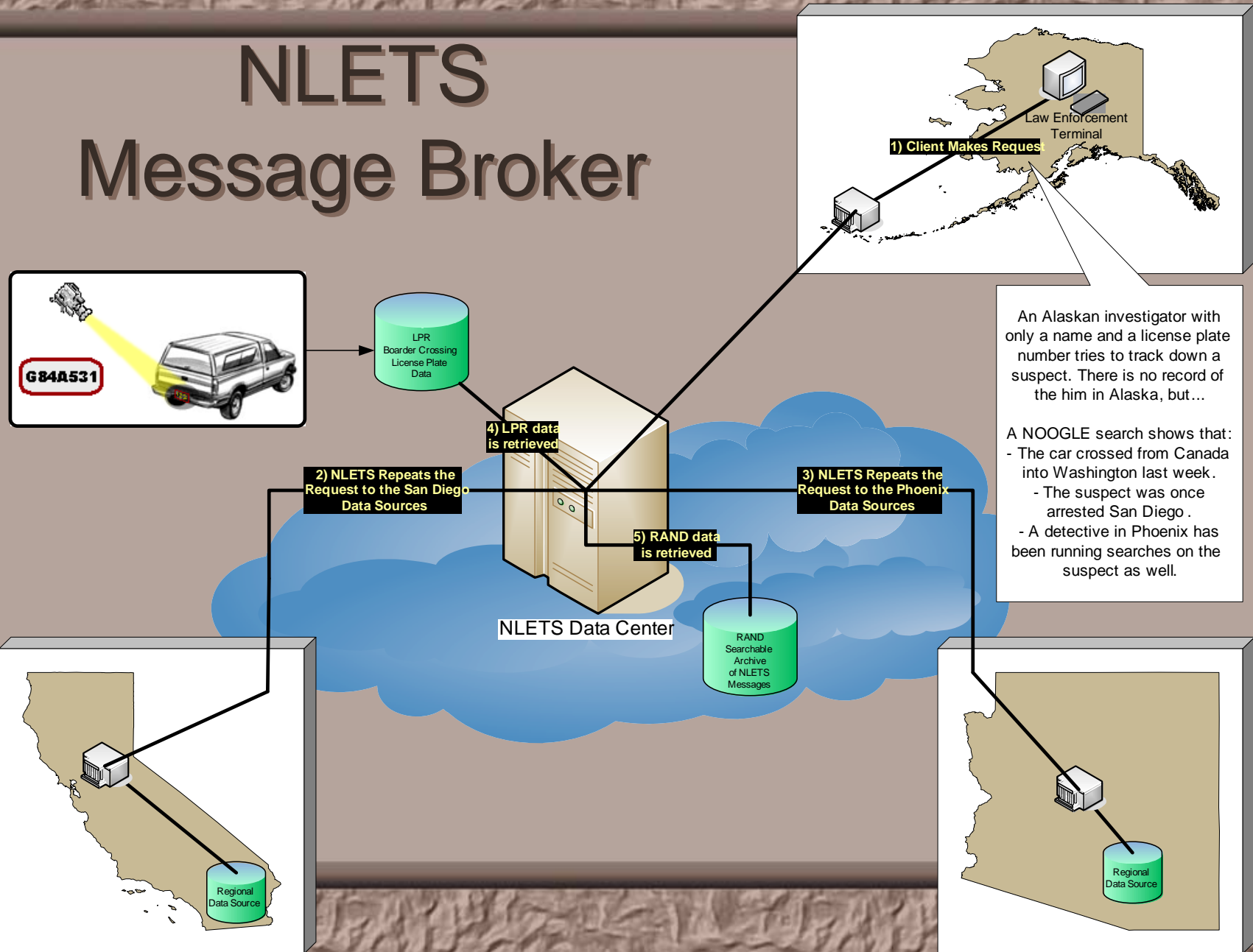


In Phoenix a parole officer runs a check on one of his parolees. No new records are found for him in Phoenix, but...

The officer sees that he was fined for possession in San Diego. A check of the photo confirms that he violated his parole.



NLETS Message Broker



An Alaskan investigator with only a name and a license plate number tries to track down a suspect. There is no record of him in Alaska, but...

- A NOOGLE search shows that:
- The car crossed from Canada into Washington last week.
 - The suspect was once arrested San Diego.
 - A detective in Phoenix has been running searches on the suspect as well.

Preface

I will be sharing where GJXML fits into the *S.R.F.E.R.S.* project.

- How it fits our bigger picture of inter agency integration
- What other tools and techniques were needed

Preface

GJXML is a HUGE step forward for justice data sharing. Given the large and diverse user base that it serves, creating a common “language” that we can all communicate in is a GREAT achievement.

It is not, however, a complete integration solution. It is a tool to assist in our integration efforts.

Topics

What to share?

Integration Documents

- GJXML – what it does and does not provide.
- An XML Wrapper

How to share it?

Application Structure

- Supporting a Variety of Document Formats
- Multi-Tier Architecture
- NLETS Message Broker

GJXML

What it provides

- The Data Model is a nationally recognized “vocabulary” of terms for describing justice data.

GJXML

What it does not provide

Context – GJXML represents raw justice documents, but not to do with the data.

What to do with the record?

- Add
- Delete
- Parameters for a search

GJXML

What it does not provide

Security Information:

- Where did the record come from:
 - Agency or Application ID
 - Password or credential to verify the source
- Audit information
 - User ID of the officer entering the report

GJXML

What it does not provide

Network Routing information:

- Destination address
- How to respond
 - MQ Series Queue
 - Correlation ID

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XML Wrapper

There are a number of ways to convey these additional pieces of data.

For instance if your communicating using web services then the **action** to be performed and the **destination address** are implicit in the URL of the web service being called.

XML Wrapper

SOLUTION: We chose to add this additional information as part of the document being passed.

Two primary reasons:

1. To be compatible with “store and forward” systems like MQ Series
2. Conform to audit and logging requirements of some of the intermediate networks

XML Wrapper

```
<xml_wrapper>  
  <header>  
    <Routing Information>  
    <Security Information>  
    <Context / Action>  
    <Response Information>  
  </header>  
  <payload>  
    <GJXML Document>  
  </payload>  
</xml_wrapper>
```

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Supporting a Variety of Document Formats

Plan to support a variety of document formats.

These could be:

- Legacy formats
- Future versions of GJXML
- Variations in GJXML 3.0 documents from different sources

Supporting a Variety of Document Formats

Variations in GJXML 3.0 documents? What!!!

Yes, for the near future expect to see variations in the structure of the GJXML you receive from 3rd parties:

- Within the GJXML system there are often a number of ways to create the same document.
- Reference documents are being designed, but most are not yet available and their use is not required.

Supporting a Variety of Document Formats

Don't stove pipe.

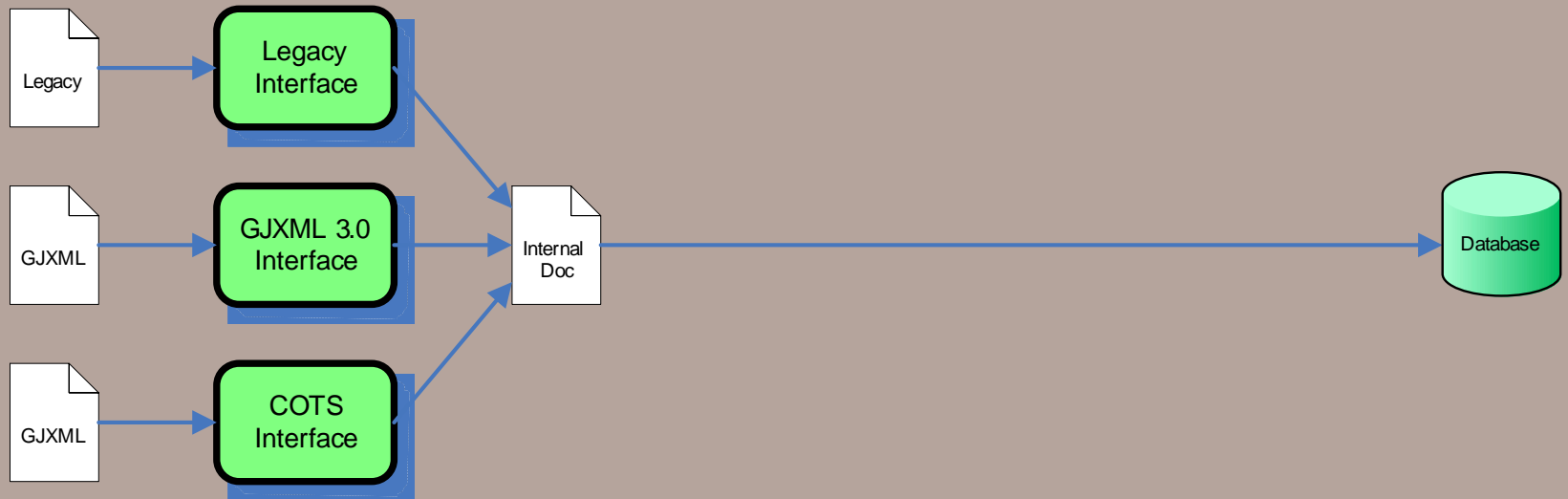
Handling each document type separately is termed “stove pipe” integration.

It the simplest approach, but is hard to maintain and upgrade:

- Business rules must be copied for each
- Data validation must be done for each
- Often leads to a hard link between two applications instead of a reusable interface

Supporting a Variety of Document Formats

SOLUTION: Convert all 3rd party documents into your own document format.



Supporting a Variety of Document Formats

Your native format could be:

- Your version of GJXML which contains all the fields your system understands.
- A legacy format you are already setup to use.
- If you're a Java or .Net shop it may be a native Data Object which has variables for each of your data fields.

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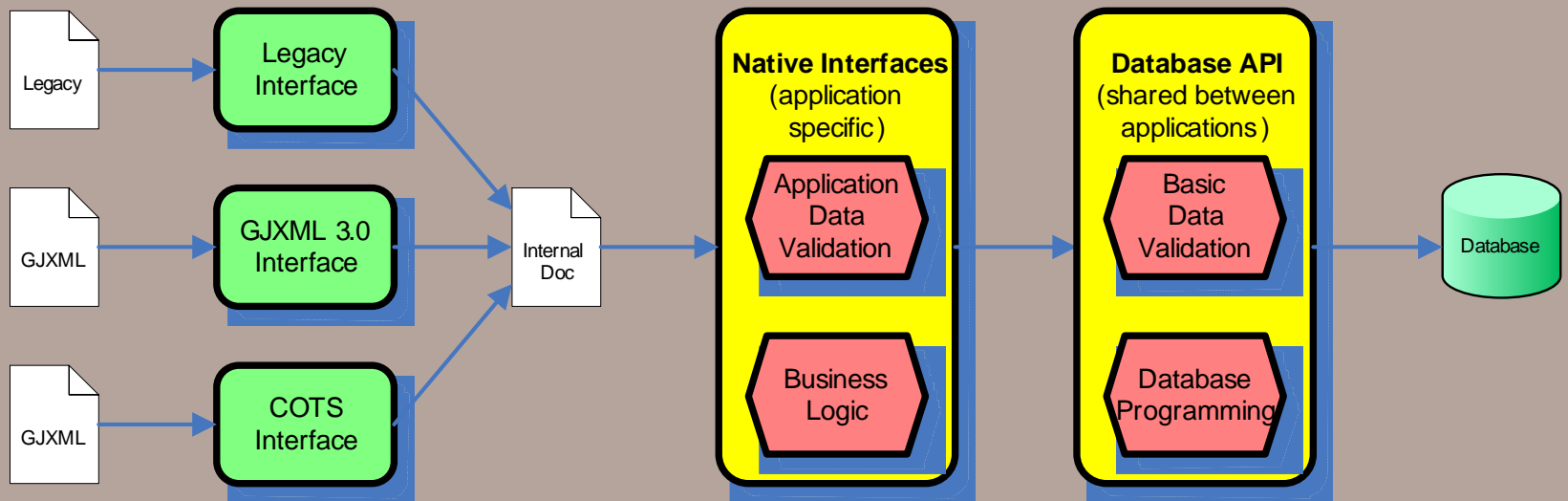
- Supporting a Variety of Document Formats
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- NLETS Message Broker

Multi-Tier Architecture

- A multi-tier application architecture is a good practice in a enterprise environment.
- Promotes code reuse
- Simplifies maintenance
- System flexibility
 - e.g. Multiple documents types for the same functionality

Multi-Tier Architecture

The architecture we decided on within ARJIS.



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NLETS Network Broker

We had 2 design goals for interoperability between agencies.

- 1) Retrieve data from multiple sources with a single request.

As new data sources come online we needed a way to easily make them available to the agencies already using the system.

NLETS Network Broker

2) Need to support both:

- Web Services
- MQ Series

Wanted each client to be able to communicate without needing to know about the recipient.

NLETS Network Broker

SOLUTION: NLETS is setting up a “broker” that handle these network needs.

- Receives both MQ or Web Service messages.
- Sends on either MQ or Web Service messages, depending on the destination.
- Routes responses back using the correct protocols
- Has the ability to broadcast a message to multiple destinations.

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