



# **Yellow House Associates, LLC**

## **Capabilities Statement**

### **Core Competencies**

Yellow House Associates, LLC (**SB/VOB**) is a leader in government data integration. We specialize in two critical areas: Information Sharing, which involves moving data between offices, agencies, jurisdictions, and governments; and Data Exploitation, which is getting the most out of the information you already have. We strive to assemble “best of breed” data objects that are better than the sum of their parts. We go beyond data warehousing and data mining to apply the power of Artificial Intelligence and the flexibility of XML to your data integration challenges.

We have honed our skills performing a number of projects for several District and Federal agencies. For the Washington, DC Metropolitan Police Department, we created a web-based analysis system called “Columbo” that gives thousands of users easy access to 23 formerly separate data sources. Working with the Executive Office of the Mayor, we developed a Community Action Plan application that allows city officials to proactively solve problems at the neighborhood level. For the District's Court Services and Offender Supervision Agency, we implemented an innovative data exchange mechanism that allows law enforcement and corrections officers to access each other's vital information regarding criminal offenders. In partnership with the United States Attorney’s Office, we developed and continue to maintain a gang intelligence sharing system that disseminates critical map, photo, and identification data about dangerous gang members in the local area.

### **Specific Consulting Offerings**

#### **Java and .NET Enterprise Architecture**

We provide Java and .NET software engineers who apply agile methodologies to enterprise systems development. Our J2EE and .NET experts can design, code, test, and deploy the applications you need in less time than others take just to get started. We stress constant communication with managers and end users so you get what you really want; flexible coding techniques so your software can be easily reconfigured or recoded as requirements change; and automated testing at the unit, module, and system levels so your applications never fail. We can work as a self-contained team, responsible for all phases of the software life cycle, or as members of a larger development group, specializing in high-end roles. With our developers, there's no ramp-up time, just more time to benefit from successful rollouts.

## **Information Assurance (IA)**

Security is at the top of every IT manager's list of concerns today, and we can put your mind at ease. Our IA professionals apply in-depth knowledge of the evolving security environment with an understanding of the real-world constraints that all organizations face. We conduct Certification & Accreditation (C&A) testing, as well as hands-on penetration testing using the “attack tree” methodology. We apply IA principles to system architecture and software design so your projects can have security baked in from the beginning. We configure and manage servers and firewalls to keep your environment safe, and use intrusion detection systems to neutralize threats. You'll be able to scratch one more item off your list of worries.

## **Enterprise Systems Management**

There are many entry-level system administrators, but few experts who implement sophisticated learning processes that constantly evolve and improve. Our enterprise systems managers do more than provide advanced Unix and Windows system administration. They perform proactive system monitoring using advanced custom tools, so you know about problems long before your users tell you. They deploy automatic agents to track system status, so you don't have to depend solely on attentive operators to spot subtle signs of trouble. They implement robust backup and failover schemes to protect your critical data against loss. Our experts know how to communicate with users, managers, and developers, pushing hands-on operational knowledge wherever it is needed. With our enterprise systems managers in your organization, your systems will transform from a weakness to a strength.

## **Knowledge Base Engineering**

Turning data into knowledge is the heart of what we do. We provide seasoned database administrators and data warehouse designers, but more importantly, we supply the experience and expertise it takes to succeed at knowledge base implementation projects. We've worked through tough, real-world issues like data quality, information currency, and access control policy. We know how to build value-added systems on top of Oracle, Microsoft SQL Server, Sybase, and MySQL. We've deployed complex technologies like database replication and semantic indexing in challenging production situations. With our help, your knowledge base efforts can provide the true value every project manager dreams about.

## **GSA Schedule and Classification**

**GSA Schedule Information:** GS-35F-0647P

**Standard Industrial Classification (SIC):**

7371 Computer Programming Services

**Primary NAICS Code:**

514210 Data Processing Services

541511 Custom Computer Programming Services

541330 Engineering Services

541512 Computer Systems Design Services

541513 Computer Facilities Management Services

541519 Other Computer Related Services

514191 On-line Information Services

541710 Research and Development in the Physical, Engineering and Life Sciences

Our associates have current SSBI's for **TS**/Secret Compartmentalized Information (**SCI**) clearances.

**Contact us** to discuss your challenge or schedule a presentation:

Intelligence Community/ Law Enforcement Community POC:

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# Yellow House Associates, LLC

## Project Summary





## **Community On-Line Intelligence System for End-Users and Managers (COLISEUM)**

COLISEUM is hosted at the Defense Intelligence Agency (DIA) and is the Department of Defense's primary system for managing requests for intelligence data. At every level of the military chain of command, users register their intelligence requirements in COLISEUM. Officials at the top organizations use the system to assign these requests to the various intelligence agencies. Analysts complete the work and enter their responses into COLISEUM for real-time dissemination to the war-fighting customers.

Yellow House Associates personnel were the key designers and developers of COLISEUM. Major roles included system architect, lead programmer, user interface designer, information security engineer, and database administrator.

COLISEUM is a **3-tier web-based application** built on open-source software. The **Apache Web Server** securely handles interaction with client web browsers. The **Tomcat** Java servlet engine hosts Java objects that access the **Sybase database**, as well as **Java Server Pages (JSPs)** that produce **HTML** and **JavaScript** for user interaction. The custom-coded **Java persistence layer** handles distributed transactions, data validation, and object caching without the heavyweight penalties imposed by EJB. The database uses **Sybase Replication** technology to mirror data among redundant servers in several locations worldwide. All database searches and updates are tracked in a complete **audit log** to meet stringent security requirements.

COLISEUM handles over 8,000 intelligence requirements a year and has over 2,000 users located around the world.

### **Reference:**

Ms Jeanie Layton  
COLISEUM Program Manager  
Defense Intelligence Agency  
(202) 231-4007  
afkenjm@dia.osis.gov



## Centurion Cross-Domain Transfer System

Centurion is a fully-accredited multilevel security solution installed at the Defense Intelligence Agency (DIA). It seamlessly handles the movement of intelligence requirements and products among three computer networks that are physically separated for security reasons. Centurion automatically moves data from lower levels upward, and allows authorized users to push data from higher levels downward.

Yellow House Associates personnel were critical in all phases of Centurion development. Major roles were system architect, lead programmer, information security engineer, and system administrator.

Centurion consists of custom Java code that transfers data between COLISEUM and an **accredited high-security firewall**. On the sending side, Centurion receives notification from COLISEUM via **XML messages over an HTTP connection**. It then retrieves data from the **Sybase database**, builds an XML representation of the object requested, and performs stringent **classification level checks** before sending the data through the firewall. On the receiving side, Centurion **converts the XML data stream** into an object, performs integrity checks, and saves the object to the database. For high-to-low transfers, remote users are authenticated using **client-side digital certificates**. All communications are protected by **SSL using 1,024-bit RSA encryption** for key exchange. Every transfer is fully recorded in an **audit log** for security purposes.

Centurion transfers over 3,000 data objects a year with a latency of less than 8 seconds, and has never experienced any sort of security breakdown or failure.

### Reference:

Ms Jeanie Layton  
COLISEUM Program Manager  
Defense Intelligence Agency  
(202)231-4007  
afkenjm@dia.osis.gov



## **Columbo Criminal Intelligence Tool**

Columbo is the Metropolitan Police Department's premier crime research and mapping tool. Columbo automatically gathers data from 23 different legacy data sources, including the mainframe arrest tracking system, Microsoft SQL Server and Oracle databases, and end-user Access files and Word documents.

Yellow House Associates personnel were wholly responsible for the design, development, and operations of Columbo. Major roles included system architect, lead programmer, programming team members, database administrator, requirements analyst, user interface designer, data warehouse architect, help desk support, curriculum developer, and user trainer.

Columbo is built on a best-of-breed mix of open-source software and commercial products. The data movement component consists of custom Java code that uses **Java Database Connectivity (JDBC)**, **Open Database Connectivity (ODBC)**, **geo-coding software**, and **text parsing algorithms** to interface with a wide array of data sources. Yellow House proprietary **code generation tools** produce database schemas, **Java persistence objects**, and **Java Server Pages (JSPs)** based on a **central data dictionary**. The **Tomcat** Java servlet engine hosts the Java objects and JSPs, which provide user functionality using **DHTML** and **advanced JavaScript**. The open-source **Lucene text indexer** allows Google-style searching of all the documents in the system, with **stemming** and **phonetic** matching options. Columbo uses **ESRI's** respected **ArcIMS** and **MapObjects GIS** products to serve up maps with a user-friendly but powerful browser-based interface.

Columbo has over 1,500 users and performs an average of 200 searches an hour. In addition to MPD, Columbo is also used by the District US Attorney's Office, the DC Court Services and Offender Supervision Agency, the FBI, and the Secret Service.

Reference:

Mr Walter Collier  
Deputy CIO  
Metropolitan Police Department  
(202)727-8667  
[wcollier@mpdc.org](mailto:wcollier@mpdc.org)

**Web Link:** <http://mpdc.dc.gov/news/stmts/2002/07/071002e.shtm>

“Perhaps the biggest technological innovation has been the creation of the Columbo system. Columbo is a ‘Google-like’ search engine that allows investigators and other personnel to search, retrieve and link information from various criminal databases. This information can be invaluable in developing leads, identifying suspects and linking crimes.” -- Metropolitan Police Chief Charles Ramsey, July 10, 2002.



## Community Policing Action Plan System

The Community Policing Action Plan System is the District of Columbia's new tool for the Metropolitan Police Department (MPD) and the Executive Office of the Mayor to engage with local community leaders and District agencies to improve the City's neighborhoods. It is the one system used to create, track, and manage neighborhood action plans that target local crime problems and coordinate efforts to solve them.

Yellow House Associates personnel were wholly responsible for the design, development, and operations of the Community Policing Action Plan System. Major roles included system architect, lead programmer, programming team members, database administrator, requirements analyst, user interface designer, help desk support, curriculum developer, and user trainer.

The Community Policing Action Plan System is built on the **Tomcat** Java servlet engine with **JavaServer Pages** (JSPs) to produce the web content. Sophisticated **DHTML** and **JavaScript** code is used to provide rich **electronic forms functionality**, such as automatic address completion, dynamic form fields, and high-fidelity paper formatting. A **custom-built workflow engine** enforces policy regarding Action Plan approvals, modifications, and closures. The workflow engine's behavior is controlled by an **XML configuration file**, allowing easy adjustments in case of policy changes. All user operations are recorded in an **audit log** to provide full accountability for the important government function.

In its first month of operation, users entered 143 Action Plans into the Community Policing Action Plan System. Over 1,000 community members have been registered in the system. During the spring and summer of 2004, the Executive Office of the Mayor plans to expand the use of the system to encompass all District agencies and community associations.

### Reference:

Ms Justine Lovig  
Policing for Prevention Program Coordinator  
Metropolitan Police Department  
(202) 727-8727  
jlovig@mpdc.org

### Web Link: <http://mpdc.dc.gov/pfp/pfp.shtm>

"The Metropolitan Police Department is putting prevention back into policing. The MPDC's Policing for Prevention strategy works through partnerships and problem solving, and through three approaches that lead to lasting change."

-- Metropolitan Police Department Web Site.



## **Intelligence Led Policing System (ILPT)**

The Intelligence Led Policing Tool (ILPT), developed by Yellow House Associates and funded by the National Institute of Justice, gathers and analyzes law enforcement information from as many sources as possible.

The more pieces of information an investigator sees, the more likely he or she can solve the crime; similarly, the more sources of data the ILPT can access, the better the system can find leads and links. The ILPT uses sophisticated rules to identify possible links and suspects and will notify the proper investigators when they are found. The investigators are able to pull up electronic dossiers on subjects, search textual narratives, and follow links among offenders, victims, and locations. Analysts have access to correlated information in ILPT.

They have the option to pull information directly from the data sources and use it in their existing crime analysis tools. Since ILPS provides basic crime mapping, crime analysts are able to focus on deeper analysis and pattern detection.

Reference:

Derric Milligan  
Policing for Prevention Program Coordinator  
Mitretek Systems  
(703) 610-1939  
[darric.milligan@mitretek.org](mailto:darric.milligan@mitretek.org)

“The (National Criminal Intelligence Sharing Plan) represents law enforcement’s commitment to take it upon itself to ensure that the dots are connected, be it in crime or terrorism. The plan is the outcome of an unprecedented effort by law enforcement agencies, with the strong support of the Department of Justice, to strengthen the nation’s security through better intelligence analysis and sharing.” -- Attorney General John Ashcroft, May 14, 2004



### **Information Sharing -- Data Mining Tool**

The D.C. Court Services and Offender Supervision Agency (CSOSA) is using the expert services of Yellow House Associates for their Information Sharing Initiative. This project will implement a system to gather data from sources in other agencies on a regular schedule, move it securely through the CSOSA firewall, and aggregate it in a database that SAS data mining tools and CSOSA's SMART internal management application can access. The system will be highly reliable, easily monitored, simple to administer, and able to accommodate future growth.



### **Intelligence Community Metadata/XML Project**

The United States Department of State, Bureau of Intelligence and Research (INR) has selected Yellow House Associates as the developer and system integrator of their XML Intelligence Community Metadata Standard initiative. INR in addition to the rest of the Intelligence Community (IC) is being directed to alter its business processes and products to support XML as a new content delivery standard. The purpose of this standard is to enhance interoperability and data sharing among Community members and discovery on the part of the users of Community products. Yellow House Associates was chosen for their extensive and proven experience in cross-platform systems integration, classified document management systems, XML, CAPCO, IC Metadata Standard for Publications (IC MSP), and Interlink Metadata while working programs for the DIA, CIA, and NSA.



## **Disaster Preparedness – Data Fusion Center**

The Washington DC Metropolitan Police Department (MPDC) has chosen Yellow House Associates to assist with disaster preparedness and planning for the development of a data fusion center. Yellow House Associates conducted a thorough literature review for the MPDC, evaluated the critical incident management proposed in the National Incident Management System (NIMS) and Homeland Security Presidential Directive (HSPD)-5 "Management of Domestic Incidents", and developed a Fusion Center Guidelines document specific to the needs of the MPDC based on the framework spelled out in HSPD-8 "National Preparedness".