

Intelliportal: Bridging The Islands Of Information

An Image-X White-Paper

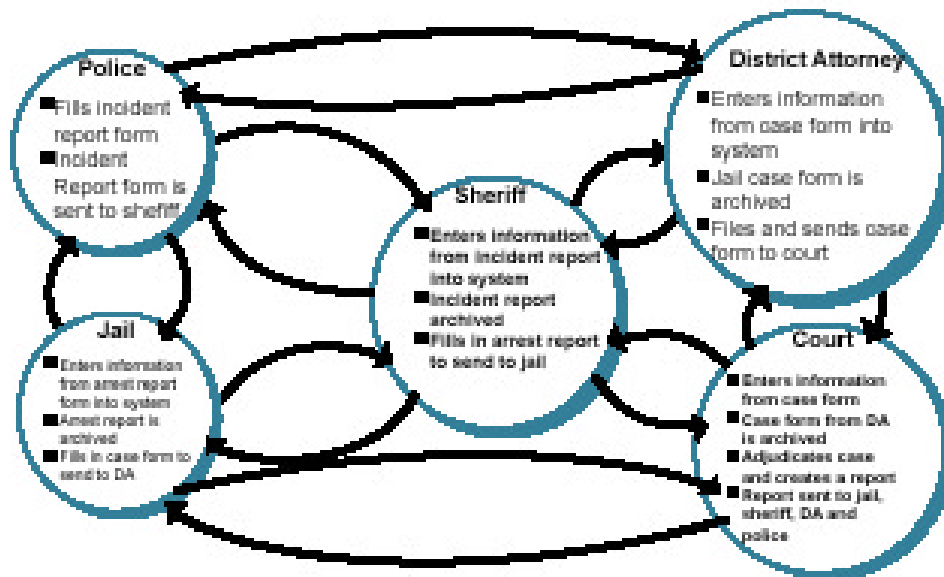
The most valuable asset an organization has is its information or knowledge base. As an organization grows, the sharing of and access to information and knowledge becomes ever more critical, at the same time an organization's growth makes management of this knowledge and information more complicated. Facilitating the exchange of information and knowledge between and within departments is an essential first step to integrating an organization's knowledge assets.

An organization's knowledge is important for the short term and the long term. In the short term information is critical to the operations of an enterprise and in the long term information is crucial for younger generations to learn and work from. Organizations with numerous departments have difficulty managing their information because the departments that comprise the enterprise act independently, difficulty in exchanging data. As a consequence each department over time accumulates and stores data in styles, thus creating major inefficiencies.

Islands of Information

As an enterprise comes into existence, it becomes segmented into different departments or islands to facilitate management of the enterprise. While these organizational separations allow specialized and expert knowledge to thrive, they create significant barriers between departments which prevent the access of the vary expertise that is needed. In many instances the need to communicate or access information throughout all levels of the organization creates a mind-bending over complicated workflow. Often these barriers are a difference in the networking platform, mainframe system or particular organization structure used. In Figure A below, the everyday interaction between the police, sheriff, jail, district attorney and court is outlined.

Figure A: Workflow scenario for a non-integrated law enforcement enterprise



The inability to access critical information is affording opportunities to terrorists and other multiple offenders.

The need to share information from diverse sources has created inefficient and costly work flows at multiple levels within Justice and Public Safety agencies. Typically, a department obtains information from a form, and then manually inputs that information or data into a new and unique system, creating a new entry, yet containing information that, all too frequently, already exists. These redundancies create productivity, time and cost inefficiencies at multiple levels within multiple agencies, and set-up islands of information. The "islands" exist when time is lost due to restrictive search capabilities, printing, sending and redundant data entry, which fosters the risk of missing a real threat in our community, as well as propagating the obvious monetary and productivity losses. The real-time acquisition of critical, comprehensive data, across the islands of information, will enhance our ability to address potential threats in our communities.

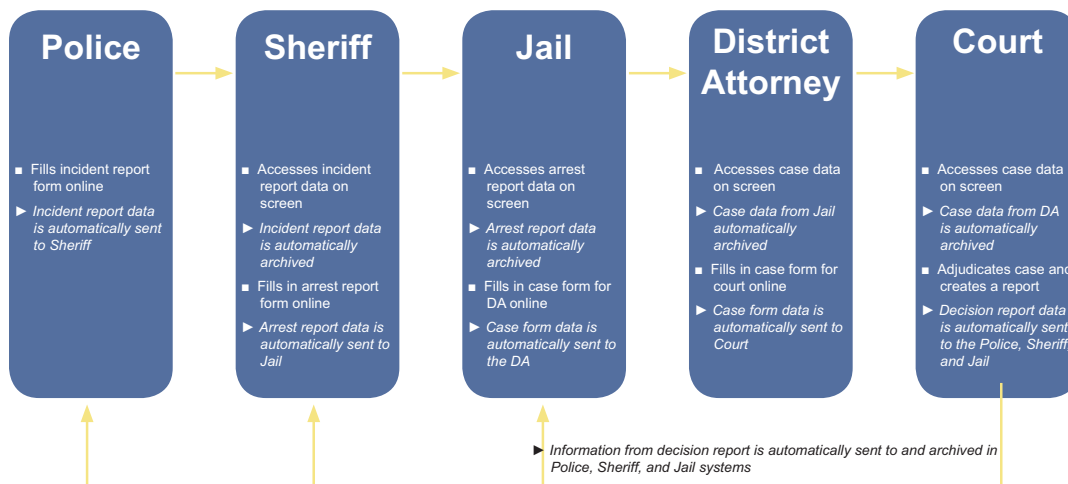
Like human communication, interaction between computers is only possible when all systems understand the same language. Much like a Mandarin speaker and a German-speaker need a translator to communicate and understand the bits of information passing between them, a computer running PeopleSoft and a computer running Sybase also need a translator to facilitate communication. eXtensible Markup Language or XML is that translator.

Again look at Figure A. If the police put a suspect's booking information on a floppy disk and then gives it to the sheriff, jail, DA or court in an attempt to integrate the systems, it wouldn't work. While, the polic system knows and understands that John Doe is a the suspect's name and that 1450 was the code for his offense, the others systems are ignorant to these qualifiers. In fact, the sheriff, jail, DA and the court systems see John Doe not as a name but as little 1's and 0's with no specific destination or meaning. XML provides a way to give John Doe a interpretable meaning to all systems. But while XML is a standard way of interpreting data, there is no standard authoring tool or way to assemble the data in the first place.

The optimal solution would allow an organization to maintain its current system of collecting and authoring secure data (forms), while adding the qualities of XML. Forms that departments create are carefully designed so that they meet the needs of all parties involved. Forms provide departments with all the necessary data, however, forms are very expensive to manage and they do not facilitate a quick transfer of information. There have been attempts by enterprises and vendors to put forms into a completely electronic format, but these forms are limited only to the systems that they are built for and they cannot be interpreted correctly by other systems. The information being transferred in these electronic forms is "dumb" data, which prevents it from being universally interpreted. Additionally these electronic form solutions are expensive to develop and implement.

As outlined in Figure B, the justice system can integrate and streamline their processes by Converting their current paper forms to an XML format. Post integration data can be interpreted and used by any type of system. The cost of conversion is minimal and the electronic forms generated have the same look and feel as they a do in paper format requiring no retraining or gap between implementation and realization of productivity gains. Using XML technology combined with Sybase portlet technology, forms and can be enhanced to bridge islands of information and integrate departments spread across an enterprise. Hence departments can communicate and share information efficiently without the delays of a non-integrated system.

Figure B: Workflow scenario for an XML integrated law enforcement enterprise



Proposed Solution:

The most advantageous solution would allow an agency to maintain the current system(s) of collecting and authoring data, while exchanging secure data effectively between the pre-existing islands of information. Since all data is in an electronic and interpretable format, all agencies with access to the proposed solution can securely exchange data in real time.

The proposed solution will enable law enforcement professionals to search multiple secure databases linking thousands of data points of evidence, leads and suspects - using Sybase Portlets, Data Warehouse technology, and the XML based forms technology by Image-X. When a query has been completed across these diverse sources, the system will generate portlets dynamically. Using the data from the portlets, Intelli-Reports are created using XSLT (XML Style sheet Language Transformation). Intelli-Reports are customized reports dynamically created based on the users need to know status, i.e. login and password. These Intelli-Reports can be customized for content and form based on the organization and user requirement.

Once the report is done the data goes into a data warehouse. The Data Warehouse allows drill down searching of data at a later time by authorized users to bring about information assimilation by the members of the organization.

The Benefits

XML document exchange allows departments to work together effectively, securely and efficiently. The gap between islands can be effectively reduced with through efficient XML based document exchange resulting in significant intangible returns to productivity, collaboration and innovation. These types of returns have no real measurement in the short term, but in the long term and through the life cycle of the system, these types of returns can be measured by decreased retraining time, reduction in turnover costs and significant productivity gains.

XML document exchange through portlet technology effectively eliminates temporary islands of information. These situations exist when time is lost due to the printing, sending, and data entry resulting in monetary and productivity losses. Since all data is in an electronic and interpretable format all departments within the enterprise can access and exchange data dynamically on the fly. Bridging temporary islands of information is crucial to the short and near term operations of an enterprise.

In the long run XML document exchanges are inexpensive to develop, implement, change, and manage. Printing and data entry costs are virtually eliminated since XML document exchange allow systems to work as integrated systems. There are no development costs for the forms since they already exist and are easily converted to an electronic format. Hardware costs are eliminated because XML document exchange integrates all existing systems without introducing new hardware.

Conclusion

When making a decision about knowledge management an organization must look at five things: cost, longevity, effectiveness, security and ROI. XML document exchange allows existing forms to be enhanced and used in the most efficient and effective way because of its bond between portlet technology and warehousing through Intelliforms. To be successful and competitive in the future, organizations need to manage their knowledge effectively to bring departments together in both the short and the long term. XML document exchange through portal technology is the most simplified and cost effective knowledge management solution that can be used by an organization to bridge their islands of information.

Police Cost Analysis		
Case Costs	Non-Integrated	XML Integrated
Data Entry	\$1.50	-
Form Filling	\$1.50	\$1.50
Copying/Printing	\$0.20	-
Scanning/Archiving	\$2.00	-
Sending	\$0.50	-
Subtotal	\$5.70	\$1.50
X 1,000 Cases Per Month	\$5,700.00	\$1,500.00
X 12 Months Per Year	\$68,400.00	\$18,000.00
Yearly Savings	\$50,400.00	

Sheriff Cost Analysis		
Case Costs	Non-Integrated	XML Integrated
Data Entry	\$3.00	-
Form Filling	\$1.50	\$1.50
Copying/Printing	\$0.20	-
Scanning/Archiving	\$2.00	-
Sending	\$0.50	-
Subtotal	\$7.20	\$1.50
X 1,000 Cases Per Month	\$7,200.00	\$1,500.00
X 12 Months Per Year	\$86,400.00	\$18,000.00
Yearly Savings	\$68,400.00	

Jail Cost Analysis		
Case Costs	Non-Integrated	XML Integrated
Data Entry	\$3.00	-
Form Filling	\$1.50	\$1.50
Copying/Printing	\$0.20	-
Scanning/Archiving	\$2.00	-
Sending	\$0.50	-
Subtotal	\$7.20	\$1.50
X 1,000 Cases Per Month	\$7,200.00	\$1,500.00
X 12 Months Per Year	\$86,400.00	\$18,000.00
Yearly Savings	\$68,400.00	

District Attorney Cost Analysis		
Case Costs	Non-Integrated	XML Integrated
Data Entry	\$1.50	-
Form Filling	\$1.50	\$1.50
Copying/Printing	\$0.20	-
Scanning/Archiving	\$1.00	-
Sending	\$0.50	-
Subtotal	\$4.70	\$1.50
X 1,000 Cases Per Month	\$4,700.00	\$1,500.00
X 12 Months Per Year	\$56,400.00	\$18,000.00
Yearly Savings	\$38,400.00	

Court Cost Analysis		
Case Costs	Non-Integrated	XML Integrated
Data Entry	\$1.50	-
Form Filling	\$1.50	\$1.50
Copying/Printing	\$0.60	-
Scanning/Archiving	\$1.00	-
Sending	\$1.50	-
Subtotal	\$6.10	\$1.50
X 1,000 Cases Per Month	\$6,100.00	\$1,500.00
X 12 Months Per Year	\$73,200.00	\$18,000.00
Yearly Savings	\$55,200.00	

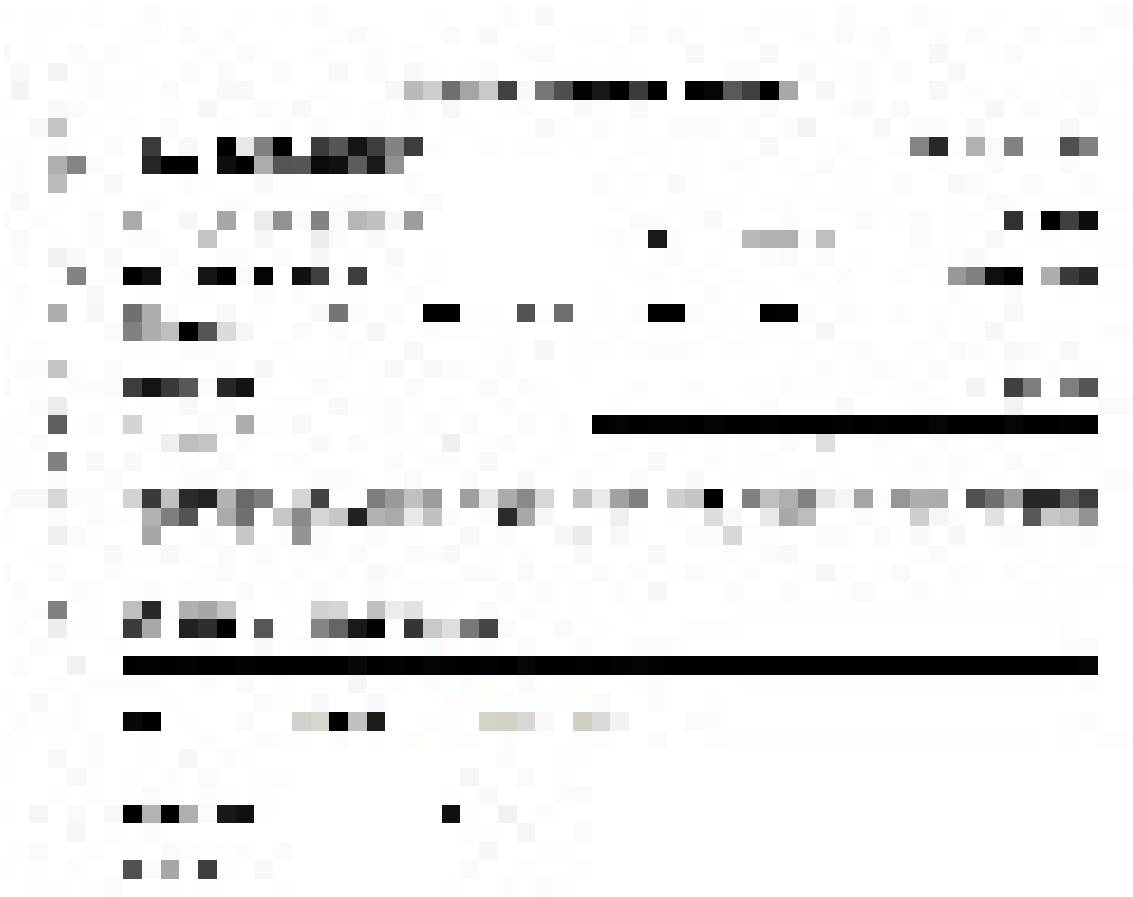
Total Enterprise Cost Analysis		
Case Costs	Non-Integrated	XML Integrated
Data Entry	\$10.50	-
Form Filling	\$7.50	\$7.50
Copying/Printing	\$1.40	-
Scanning/Archiving	\$8.00	-
Sending	\$3.50	-
Subtotal	\$30.90	\$7.50
X 1,000 Cases Per Month	\$30,900.00	\$7,500.00
X 12 Months Per Year	\$370,800.00	\$90,000.00
Yearly Savings	\$280,800.00	

Assumptions:

- 1) Cost of data entry is \$1.50 per entry, this is a labor cost.
- 2) Cost to fill forms is \$1.50 per form, this is a labor cost.
- 3) Cost is \$.20 per form or case copied, this includes labor and material costs.
- 4) The cost to scan and/or archive each form is \$1.00, this includes labor and material costs.
- 5) Sending costs are \$.50 per each form sent, this includes handling and actual shipping costs.

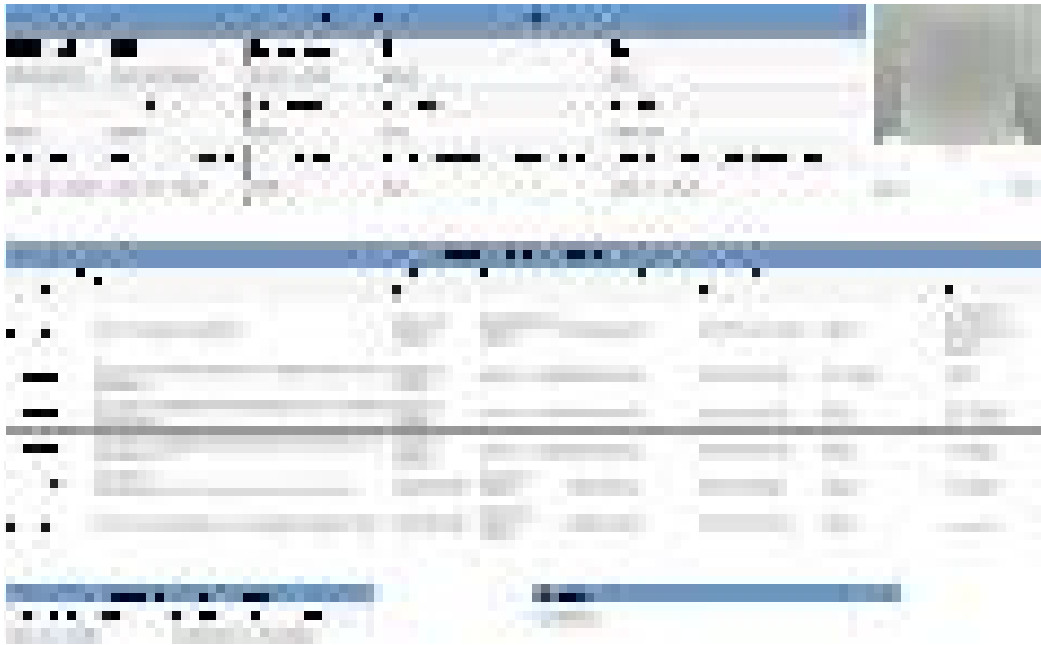
Example

The officer first fills in the X-Form...



Then the report is stored in the Data Ware House, and...

The Intelli-Report is then created on the fly...



User can now query for report

