This Sector Application Survey consists of the description and evaluation of two business processes relative to law enforcement in Virginia that utilize information systems. The two business processes to be evaluated are: 1) the identification of sex offenders; and 2) the development and maintenance of criminal history records.

Business Process 1

Sector: Law Enforcement in Virginia (Virginia State Police)

Business Process: Identification of Sex Offenders

In order to gain a better understanding of how the Virginia State Police business process for the identification of sex offenders works, it is helpful to first view the Virginia State Police organizational structure related to information services. A diagram of this organizational structure is attached as Appendix A. The Work-Centered Analysis (WCA) Framework (Appendix B), the Entity-Relationship Diagram (ERD) (Appendix C), and the Data Flow Diagram (DFD) (Appendix D) for this business process are attached as references.

Business Process Description:

Information on "violent" sex offenders was mandated by law to be made available on the Internet beginning January 1, 1999. To comply with this law, the Virginia State Police Department utilized a vendor, Vector Software Services, to assist them in developing a system that would enable access to current, accurate, and secure information via the Internet. Vector's response was to develop a "Cool Internet Commerce Enabler (ICE) " web server that would take

information as it is updated in the various Virginia law enforcement databases, manipulate it, and then automatically transmit this updated data to the user's computer (whether that user is a member of the public, an agency, or law enforcement). The user would then access the information via a web browser (Vector 1999).

Business Process Evaluation/Performance Variables:

Using the performance variables to evaluate this business process, it is apparent that information systems play a critical role in the maintenance and accessibility of police records, thereby enabling law enforcement personnel to better do their job. Because the Sex Offender Registry consolidates information from a variety of sources and provides instantaneous updates (due to the implementation of Cool ICE), the process rates high in the areas of productivity, rate of output, and cycle time. In the areas of security and consistency, the evaluation is not as clear. While the Cool ICE server has a secure gateway, the likelihood that an unauthorized person could gain access to this information is unknown. The issue of Internet security is complex and highly debated, so the evaluation of this process in regards to security remains inconclusive. Consistency relative to this business process brings to mind the adage that "your system is only as good as the people that run it." As stated in a 1996 *Richmond Times Dispatch* article by author Mark Johnson, "The technology is there. The biggest obstacle, law enforcement officials said, is consistently getting the information into the technology" (Johnson 1996). If those entering the data into the system make errors and/or omit entering data, the system will be in effect rendered useless.

In an April 3, 2000 article in the *Virginian-Pilot* newspaper, it was revealed that Virginia's criminal records system was recently audited and the findings indicated an accuracy rate of 85% and a completeness rating of 59%. The author of the article contends that "[these percentages are] unacceptable in an information system of such importance" – which lends credibility to the above assessment on consistency (2000). Until the system is improved, the overall business process cannot be considered successful.

Business Process Evaluation/Perspectives for Viewing a Work System:

Due to the legislative mandate to have this information accessible via the Internet, the context perspective in which this business process can be evaluated should be considered adequate. Because it was a federal requirement, there should be consistency regarding the type and format of information reported. Because of the flexibility of hardware/software; ease of use of the query system (the search is concise and easy to follow); and real-time updating capabilities, the architecture and performance perspectives for this business process rank high. The infrastructure perspective, however, is dampened by the recent audit indicating that the files in the database are incomplete and inaccurate to an extent.

Conclusion:

While no system can be perfect, perhaps the author's assertion that an 85% rate for accuracy is far too low for a system of such importance is a valid one. While there are many factors that make this business process an admirable one, until they can improve the accuracy of data entered, their efforts may be for naught. It is important to note that part of the problem may be related to

budget constraints. In the above-mentioned *Richmond Times Dispatch* article, a former federal official involved in criminal justice technology stated "The system is full of holes. The biggest hole is that people have been slicing law enforcement budgets all over the place for years…hiring more staff to feed backlogged information into computers ranks as a pretty low priority when citizens are screaming for protection from thugs" (Johnson 1996). Perhaps the state legislature should be the first to recognize that in order to protect the public, it is necessary to provide law enforcement with the resources they need.

Business Process 2

Sector: Law Enforcement in Virginia (Fairfax County Police)

Business Process: Development and Maintenance of Criminal History Records – Arrest and Booking Procedure

The Work-Centered Analysis (WCA) Framework (Appendix E), the Entity-Relationship Diagram (ERD) (Appendix F), and the Data Flow Diagram (DFD) (Appendix G) are attached as references.

Business Process Description:

In 1995, various Fairfax County government and law enforcement officials formed a task force to work on the "Criminal Justice Redesign/Information Technology Project." The purpose of this Project was to analyze and review the existing arrest and booking procedure in an effort to identify ways of improving the efficiency and effectiveness of the system. Some specific problem areas identified were: 1) there was often redundant data entry; 2) Polaroid and 35mm photos of suspects were expensive and timely to develop; and 3) ink fingerprinting was often a difficult process. The answer to these problems, the

task force surmised, is developing a computerized system that would computerize the fingerprinting process and centralize the data. The LiveScan 2000 Fingerprinting computer system was purchased. These computers cost $60,000 each, but the costs of the computers are often covered by federal grants (Hudson 1995). In addition, the Fairfax County Police Information Technology Department developed a database called the "Judicial Arrest Warrant System" (JAWS) (Pierce 1999; Barrett 1999). As indicted in Appendix F, law enforcement personnel use the LiveScan computers to enter data and store fingerprints. The data is then transmitted via JAWS through various other networks and databases. The information is then sent back to the host computer.

Business Process Evaluation/Performance Variables:

Fairfax County's initiative to identify and address issues of concern with their current arrest/booking system is both an admirable and effective one. As identified in a 1999 presentation to George Mason University MPA students in February 1999, Sgt. Dan Pierce identified the unacceptable methods for booking suspects, and the inability of agencies to share data due to the "holes" in the system.

In addition, the problems associated with fingerprinting were mentioned in a *Roanoke Times & World News* article the same year the task force met, which indicates that the problems associated with this business process were not unique to Fairfax County. Sheriff Alvin Hudson stated in the article that "[the LiveScan computer] takes the guesswork out…we've come so far. It just blows your mind what we can do today…[Hudson said] prisoners are so wowed by the

new technology that they may be less likely to cause a ruckus about getting their prints done" (Hudson 1995).

Due to the increased efficiency, effectiveness, cost savings, ease of use, and accuracy enabled by the new system, this business process ranks high in the areas of rate of output, productivity, consistency, cycle time, and flexibility. A phone conversation on October 26, 2000 with one of the Fairfax County task force members, Lieutenant Shawn Barrett, mentioned that the system is working very well. In fact, Lieutenant Barrett indicated that they were preparing a spot for the Discovery Channel and have also done pieces for the local news. Lieutenant Barrett also said that he received many phone calls from the public inquiring about this highly effective means for processing arrests and booking, freeing up law enforcement resources for more urgent matters.

Business Process Evaluation/Perspectives for Viewing a Work System:

While evaluating this business process using the five perspectives, it is difficult to identify an area that causes concern. The computer-aided arrest/booking process ranks high in the areas of architecture, performance, infrastructure, context, and at this time, there are no foreseeable risks, since the technology has "taken the guess work" out of fingerprinting and eliminated the duplicity of data entry. The LiveScan system is user-friendly, according to Sgt. Pierce and Lt. Barrett, and the centralization of data in addition to the ability to match and share information is well noted. In the *Roanoke Times & World News* article, author Mike Hudson emphasizes that this technology will "help the Sheriff's Office identify people who are wanted elsewhere, find out what crimes prisoners have been previously charged with, and catch new inmates who try to

lie about their names" (1995). The thought that law enforcement officials in Virginia can have immediate access regarding a potentially dangerous suspect in their custody can perhaps make us all in Northern Virginia sleep a bit easier, as it may keep one more "thug" off the streets.

Conclusion:

As far as this business process is concerned, the saying "if it ain't broke, don't fix it" rings true. Computers can often be our best friends or our worst enemies. It seems that the most effective business processes (as seen from the above comparison) are those that require the least amount of human intervention. While that may be a sad commentary on our nation's workforce, it demonstrates that when using computer systems to aid in getting a job done, our possibilities are endless. Perhaps the important thing to stress when considering the Information System component of a business process of the types described above is that computers can and should be used to make the world a safer place, not just to buy books and CDs. Law enforcement should be given the training and resources to utilize this technology to assist them in serving and protecting the public.

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