eCitationCoalition

Guidelines for Evaluating and Implementing eCitation Systems
(December, 2016)

Summary

- Electronic citation (eCitation) technology provides tremendous benefits to law enforcement officers as well as to the communities and taxpayers they serve.

- The heart of eCitation systems is the data capture and management software that both organizes citation content and coordinates the operation of related hardware.

- Law enforcement agencies can choose from several product offerings in the market. Many eCitation systems have been developed by companies in the private sector, while standalone eCitation software programs have been developed by various government agencies.[1]

- To assure that both officers and the taxpaying public are best served, law enforcement officials leading eCitation procurement efforts should focus on such key criteria as data security capabilities, system features and form factors, the ability to customize the solution and the system's overall total cost (i.e., direct and indirect cost) of ownership (TCO).

Introduction

Over the past two decades, the emergence of electronic citation (eCitations) technology has represented a breakthrough in law enforcement technology. By transforming traditional hand written citations into digital documents that can be quickly populated and accurately issued, eCitation has significantly helped enhance the effectiveness and safety of law enforcement officers in the field.

With more than twenty years of experience, the adoption of eCitation systems is expanding across the country. There are many software and hardware options that must be taken into consideration when a law enforcement agency is considering the procurement of a new (or upgrading an existing) eCitation system. This White Paper is designed to help decision makers make a more informed choice.

The goal for any law enforcement agency is to implement the best system for law enforcement professionals, judicial and municipal officials, and the taxpaying public. In addition to meeting required data security and performance standards, the acquiring department is well advised to evaluate the total cost of ownership (TCO) of a given solution as measured over the solution's lifespan.

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[1] NOTE: For purposes of this White Paper, the terms "public" and "government-developed" relate to eCitation software that has been developed by government agencies. The terms "commercial" and "private sector-developed" relate to comprehensive eCitation solutions developed and supported by private sector companies to government customers and which include software, hardware, installation assistance, and ongoing support.

What is eCitation?

In recent decades, eCitation systems have evolved from standalone e-ticketing software to complete hardware and software solutions, often with wireless networking technologies that transfer data to court and law enforcement databases for ticket processing and data analysis. Typical eCitation systems use a smart device (laptop, tablet or handheld computer) and a mobile printer, coupled with data capture and data management software.

These systems, which replace inefficient handwritten citation processes, offer higher efficiency and productivity. With less time devoted to manually issuing and recording tickets, officers can cover more ground when on duty while enhancing both their and the public's safety by spending less time on dangerous roadsides. Digital data entry and automatic formatting produce organized, legible and accurate citations with fewer errors and fewer dismissals in court. This leads to both the recapture of revenue that is currently lost to errors common to handwritten tickets and the additional benefit of faster revenue collection for the issuing jurisdiction. Today's eCitation systems can capture, store and transmit data, making it available for analysis by the law enforcement agency and other governmental organizations in near-real time.

High functioning eCitation systems can:

- Quickly capture all information on the driver's license by scanning a 2D barcode included on the back of all licenses. The data is used to automatically populate all appropriate fields on the citation form prior to printing.

- Offer options for issuing multiple violations and warnings at one time. This allows officers to quickly search a local database of hundreds or even thousands of offenses.

- Automatically print the different types of tickets, including: traffic, parking or code enforcement citation.

- Give the officer the option to capture the violator's signature, a digital photo, or even a fingerprint.

- Synchronize and submit citation data wirelessly to the law enforcement agency's record management system (RMS) and any other government entity provided access to the system.

- Allow authorized system users to access tickets online through a desktop or mobile application, reproduce them in the appropriate format, and export the information to relevant courts. In addition, the web application stores all aggregate ticket data, which can be used to create reports for future analysis.

Adoption Rates

Today, most states have authorized the use of eCitation systems and hundreds of law enforcement agencies have systems in place. Anecdotal evidence suggests that about 60 percent of law enforcement agencies in the U.S. have adopted some form of eCitation.

Even in states that have authorized the use of eCitation systems, not all law enforcement agencies have employed them. For example, according to a March 2015 Statewide eCitation Study by the Minnesota

Judicial Branch, State Court Administration, 63% of Minnesota's citation volume is currently submitted electronically by 258 of the state's law enforcement agencies. The remaining 37% are paper citations issued by the 181 Minnesota law enforcement agencies that have not yet made the transition, though the State's Supreme Court mandated that all law enforcement agencies in the state transition to eCitation by July 1, 2016.

The Value of eCitation

Virtually every level of state, county and municipal government benefits from the implementation of eCitation systems. Stakeholders include executive and legislative branch officials as well as judges and court officials, Sheriffs and police departments, individual patrol officers, and the general public. In an era where municipal budgets are tight and the search for more cost-effective ways to govern is ongoing, eCitation systems offer a rapid return on investment, often in less than a year's time.

Some states are leading the way in developing funding mechanisms to help implement eCitation systems. Illinois, Tennessee and Virginia have passed legislation that adds a fee to traffic tickets to create specific funds that support the purchase and maintenance of eCitation systems by law enforcement agencies. Similar legislation has been introduced in several other states, including (in alphabetical order) Alaska, Arkansas, Georgia, Hawaii, Maine, Maryland, Mississippi, Missouri, New Mexico, New York, Oklahoma, Pennsylvania, Rhode Island, and South Carolina. The state of Wyoming has implemented a grant program that allows Sheriff's and police departments to apply for funding for the purpose of implementing an eCitation Solution. In its model eCitation funding legislation, the eCitation Coalition recommends a $5.00 fee be added to citations which result in a plea of nolo contendere, a plea of guilty or a verdict of guilty. The fee is to be paid by offenders and proceeds are to be exclusively used to help purchase, maintain, and refresh eCitation systems. Under the Coalition's model bill, $1.00 of the fee is to be retained by the relevant court while $4.00 of the fee is to be provided to the issuing law enforcement agency.

Where implemented, the fee has been very helpful to law enforcement. A July 8, 2015 story in *The Alton Telegraph* stated that Madison County, Illinois began adding a $5.00 eCitation fee in 2011 to all traffic tickets issued in the county. Madison County Circuit Clerk Mark Von Nida noted that the fee has generated approximately $250,000 since it was instituted and that, under Illinois law, $3.00 of the fee is sent to the Circuit Clerk's restricted fund while $2.00 of the fee is dedicated to assisting the issuing law enforcement agency with eCitation procurement. According to Circuit Court Clerk Von Nida, the Alton Police Department has received approximately $25,000 for use in purchasing and implementing eCitation.

Technology Considerations

When implementing eCitation systems, law enforcement agencies must consider the key system components:

Smart devices: Regardless of whether a law enforcement agency is using an eCitation system, many patrol vehicles are currently equipped with laptops, tablets, and handheld computing devices. The eCitation Coalition has found that the law enforcement community is trending away from the use of ruggedized laptops and toward the use of ruggedized tablets, handheld computers, and in some cases, their personal devices, which typically offers an average cost savings of 40%. The mobile nature of

tablets enables officers to take pictures at the scene, collect an electronic signature, record an interview with a witness, issue a citation or a complete report, and access data systems – all key functions in the implementation of eCitation solutions. Peripherals such as wireless keyboards can be added to tablets, bringing their functionality to the same level as a ruggedized laptop at a fraction of the cost.

Printers: In addition to the laptop, tablet, or mobile computing devices running the software application, an eCitation system requires a smart mobile wireless printer, such as those produced by Zebra Technologies, Brother Mobile, and those distributed by L-Tron Corporation. These devices are typically lightweight, battery-powered thermal printers which generate clear, legible citations with all relevant fields populated. Mobile wireless printers used for eCitations include full-page to 3 and 4-inch formats, with a wide variety of mounts designed to fit the limited space within vehicles.

Thermal printers are compact and lightweight for easy handling and are capable of high-speed, high-resolution printing that results in crisp, readable text, graphics, illustrations, maps, photos, and bar codes with maximum versatility and value.

Platform interoperability, flexible networking, and connectivity options are also important as they ensure that the printer will operate seamlessly across multiple operating platforms and devices, such as iOS®, Android™, Windows®, and Windows Mobile.

Data capture and management software. eCitation software enables law enforcement agencies to create electronic versions of all necessary documents and automatically process those documents. There are two basic options: (1) Government-developed software and (2) total solutions developed by independent software vendors (ISVs) and value added resellers (VARs).

For example, TraCS (Traffic and Criminal Software) is a data collection and reporting software program developed by government that automates the capture and transfer of incident data in the field. It is administered by and receives ongoing support and upgrades from a coalition of users called the National Model for the Statewide Application of Data Collection and Management Technology to Improve Highway Safety. The National Model also supports TraCS Web, a browser-based version of TraCS.[2]

TraCS was initially developed by the Iowa State Police under a grant from the U.S. Department of Transportation and is available for use by any law enforcement agencies. To date, it has been implemented by agencies in 13 states, though not all law enforcement agencies in those states have chosen to use TraCS.

Other state and local law enforcement agencies use commercial software developed and/or distributed by companies including: Advanced Public Safety (APS), Bluestar, Cardinal Tracking, Quicket Solutions, Saltus Technologies, ScanSource, SceneDoc, Thin Blue Line Reporting, and Brazos by Tyler Technologies. Unlike the TraCS system which requires the law enforcement agency to purchase all hardware and use its own IT staff to customize, install, train and maintain the system, commercial software programs tend to be complete, end-to-end solutions that fully combine software and hardware to provide a total eCitation system that can be fully integrated with other data collection and processing systems. Additionally, and unlike government-developed eCitation software, private-sector developed solutions are often fully customizable, and offer each agency the ability to conform tickets to their standards. In contrast, government-developed systems like TraCS have less flexibility and can require expensive

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[2] In addition to TraCS, there are other state government agencies which have developed eCitation software comparable to TraCS.

design changes to meet individual agency-customer needs. The cost of those design changes are significant and often surpass the total cost of procuring a commercial system.

A typical commercial software solution enables police officers to create tickets using laptops, tablets, or handheld computers. With a barcode scanner, officers record violator data from drivers' licenses. The software typically prompts officers through the ticket-issuing process to add charges, capture signatures, and photos related to the stop. Fines are automatically calculated based on offense, and multiple violations can be quickly issued. Court dates, statutes, and fine amounts can also be assigned automatically. Some software solutions include an up-to-date electronic list of municipal codes and state statutes as well as a search tool for identifying specific violations. Violations can be immediately uploaded via a wireless system or uploaded from mobile devices at the end of the officer's shift.

A web application in many software programs allows departments to manage users, tickets, statutes, and court dates. The web-based software also provides reporting and export tools to eliminate re-entering ticket data into various law enforcement agency and court records management systems. Reporting capabilities typically include viewing specific ticket data, photos of defendants, PDF copies of tickets, and producing custom reports.

Public or Private?

The key issue to consider when choosing an eCitation solution is the total cost of ownership (TCO). In the eCitation market, TraCS and other government-developed software is often offered as "free", a seemingly appealing feature for municipalities that are under ever-increasing budget pressures. However, the notion that the government-developed software is "free" is, at best, incomplete as the software is only a part of a full solution implementation that necessarily includes other costs, such as hardware (on-premises servers, scanners, and printers), additional IT staff time from the acquiring agency's IT staff for programming and integration with existing IT systems (such court record management systems),as well as for ongoing maintenance and support.

The use of public software dates back to the beginning of eCitation systems. The first systems were based largely in the southeast U.S. and came about via programs like TraCS and other comparable systems such as the Alabama Electronic Citation Project, a system developed at the University of Alabama and now used by law enforcement agencies in Alabama and Mississippi. Use of TraCS is strongly encouraged in Iowa and Wisconsin and is also used on a voluntary basis by law enforcement agencies in other states, such as Florida. More recently some states, such as Maryland and Massachusetts, have developed (or are developing) their own government-developed eCitation software programs. While the software is usually advertise as being "free of charge," users of these public software programs are often assessed maintenance fees and transmission fees, which support software development, and still bear the considerable capital expenditures for related hardware.

Departments transitioning from paper-based citation systems to eCitation will be best served by acquiring a total solution that includes hardware, software, and related IT support. Identifying and understanding all of the component costs associated with an eCitation solution helps prevent the emergence of hidden downstream costs that many departments cannot afford (and which, in turn can render their systems less effective). Calculating and comparing the total cost of ownership of a full eCitation solution requires the pricing out of the proposed solution's components. The chart below provides comparisons of key features offered by leading eCitation solutions providers.

	Software	Software Customization	Regular Software Updates	Server Hardware Offering	Cloud Offering	Mobile Handheld Included	Mobile Printers Included	Hardware Updates & Maintenance Included
Public Software Developer	✓	X	X	X	X	X	X	X
Cardinal	✓	✓	✓	X	✓	✓	✓	X
Brazos	✓	✓	✓	✓	✓	✓	✓	X
Quicket	✓	✓	✓	✓	✓	✓	✓	✓
Saltus	✓	✓	✓	X	✓	✓	✓	✓
Thin Blue Line Reporting	✓	✓	✓	✓	✓	✓	✓	✓
SceneDoc, Inc.	✓	✓	✓	X	✓	✓	✓	✓

**The above information represents the eCitation Coalition's understanding of the current features offered by each vendor, as of the date of this publication.

It is important to note that government-developed eCitation software tends to be about four or five years behind the best practices of commercial developers, according to Peggy Lane, Manager of Government Services at BlueStar Inc.[3] In many cases she notes that "commercial systems have far surpassed the features and functionality available in government designed software programs, and it is now more economical from a TCO perspective to use commercial solutions.".

Thin Blue Line Reporting[4] CEO Jacob Rhoads agrees. "The Thin Blue Line eCitation system was developed with officer and public safety in mind allowing officers to create warnings and citations in a fraction of the time when compared to hand written and legacy State level systems" said Rhoads. "Compared to the systems developed by government, our solutions and the solutions offered by our fellow coalition members are much more robust and modern."

Security and the ability to provide additional, and more robust, features are also key advantages of commercial software, according to Akshay Singh, Chief Technology Officer of Quicket Solutions[5]. "TraCS and similar software providers do not adequately protect law enforcement data nor do they proactively monitor and address security vulnerabilities. Only advanced providers follow the most up-to-date best practices for encryption, reliability, redundancy, and other key features of mission-critical solutions – as primarily outlined by the latest CJIS Security Policy. Further, TraCS and other providers often provide only a basic ticket writer application and are not constantly innovating to provide additional features. A unified system with multiple features provides enormous benefits to end-users in the field."

Another advantage of commercial eCitation software systems is that they can typically integrate with other public safety software, according to Tom Roper, sales manager, Brazos by Tyler Technologies Inc., Plano, Texas.[6] Roper indicated that eCitation can be one component of a comprehensive field-based data gathering system, which can include electronic accident reports, field interviews, and evidence

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[3] BlueStar, Inc., is based in Hebron, Ky., and is a global distributor of solutions-based ADC, mobility, point-of-sale, RFID, digital signage, and security technology to value-added resellers.
[4] Thin Blue Line Reporting is based in Oro Valley, AZ and specializes in tablet-based electronic citation applications.
[5] Quicket Solutions is based in Champaign, IL, and provides a cloud-based operational intelligence platform for law enforcement that includes e-citation, report, and evidence management solutions.
[6] Brazos by Tyler Technologies provides integrated software and technology services to the public sector, including mobile eCitation and records management

gathering, among other functions. A fully integrated system allows an officer to use just one device to gather information, unlike many public systems, which offer limited integration.

Roper also noted that changes to reporting requirements by state and local government require frequent software updates in eCitation systems. Updates are also required to make eCitation software compatible with new hardware and operating systems coming onto the market. Many commercial software systems offer frequent updates, typically two or more per year, helping law enforcement agencies remain compliant with state and local reporting requirements and allowing for the integration of new hardware.

Technical support is another key variable separating private sector-developed solutions from public software, according to Steve Leuschner, president and CEO of Cardinal Tracking.[7] He noted that law enforcement agencies considering a public system often don't factor in the need for and cost of support, maintenance, and upgrades once the solution is installed. This makes "free" software something less than free. For example, the state of Florida spends about $2 million per year to maintain TraCS software for the law enforcement agencies in the state that use it, according to one estimate.

Leuschner said that Cardinal has been asked by users of TraCS systems to provide service, support, upgrades, and maintenance after the government-designed software has been installed. Cardinal performs this work, but for a fee, a key factor related to TCO that law enforcement agencies need to consider during their initial evaluation of public and commercial software solutions—not after the decision has already been made.

Commercial software also does a better job of meeting the needs of three major constituencies: police officers, courts, and IT departments, according to Shawn Sicking, director of sales and marketing, Saltus Technologies, LLC.[8] "Many states lack consistent processes and procedures for data communication across municipalities. There are billions of dollars invested in RMS and Court systems across the United States, and hundreds of vendors who work with them," Sicking said. "There is no consistency in the method or technology used, which requires vendors in the private sector to be flexible. Government-designed software has no flexibility at all and is typically very generic in its capability and doesn't interface with many other IT systems."

There is an industry consensus that police officers need a system that is simple to use, rugged, and provides the secure connectivity required to meet all their reporting needs. Courts need it to manage all violations, reflect changes in ordinances, and control court dates; and agency IT departments need efficient methods to maintain the software and the database, including all licensing issues. Private sector eCitation providers can offer these solutions while government-developed software cannot accommodate such needs. One key issue that impacts all three stakeholders (law enforcement officers, courts, and agency IT departments) is the ability of systems to export data to other related systems, functionality that is only available in advanced commercial software.

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[7] Cardinal Tracking is a developer of public safety and parking software
[8] Saltus Technologies is the developer of digiTICKET, an eCitation solution for law enforcement agencies that also provides other functions, such as photo capture, GPS mapping and enhanced reporting

"Meeting the needs of the officers using the system is critical," agreed Cate Tyson, product manager for ScanSource, Inc.[9] "When purchasing a solution, law enforcement agencies need to be cognizant of the operating systems that work best for officers," she said. Implementation, configuration, and training are critical and all are typically part of the support offered to partners by global eCitation solution distributors like ScanSource, in contrast to the public eCitation software entities like TraCS which cannot provide these same capabilities. Tyson pointed out that officers may not always be technically inclined and, if they have difficulties using the system on the roadside, the speed and safety advantages of using an eCitation system are reduced, if not wholly eliminated.

 "When selecting an eCitation provider, law enforcement should evaluate the provider's data security strategy. The data collected needs to be protected while it is being stored and transferred (e.g., exporting to courts)," said Scott Mellett, National Sales Director for APS (an Aptean Company).[10] "Private or government eCitation providers need to meet the CJIS minimum security requirements to protect and secure various types of criminal justice information. Leading eCitation providers will develop a solution to protect data or partner with companies that meet the rigorous compliance requirements of U.S. law enforcement agencies."

 "Furthermore, there are opportunities for private and public software providers to work together to further the mission of law enforcement," said Mellett. "While some law enforcement agencies are operating with limited budgets, there are ways to implement a cost effective solution. "

Today, commercially developed eCitation solutions are getting careful and thoughtful review by from law enforcement agencies. The eCitation Coalition has noted that the Great Recession dealt a severe blow to the budgets of many law enforcement agencies, prompting some to consider seemingly "free" government-designed eCitation software. However, the notion of the total cost of ownership has been such that many, if not most, law enforcement agencies have chosen to acquire commercial eCitation solutions given the clear advantage these solutions offer in terms of features, functionality, ongoing technical support, and a lower overall TCO. "The support and customization offered by commercial software developers are particularly important for small law enforcement agencies, which have been slower to adopt eCitation systems", Mellett said. This is significant considering that 9,000 of the 18,000 law enforcement agencies in the U.S. have fewer than 10 officers.

When fair comparisons are made between government-designed eCitation software and prive sector-designed eCitation solutions, the latter is usually chosen. Politics, however, can cloud the decision-making process, according to Tom Roper of Tyler Technologies. "Sometimes, legislators and other government officials get involved in the purchasing process, encouraging colleagues in law enforcement agencies to choose the government-designed software in order to help keep the department within state government that administers the public software program viable. However, when features and functionality are compared on a level playing field, commercial software systems usually win."

Measuring ROI and Other Aspects of TCO

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[9] ScanSource Inc., of Greenville, S.C. sells to resellers and specializes in automatic identification and data capture (AIDC) and point-of-sale (POS) solutions; voice, video, data and converged communications equipment; and physical security solutions

[10] APS develops advanced eCitation and voice solutions to support law enforcement operations. APS's Virtual Partner 2.0, eCrash, and QuickVoice products help to increase officer safety and productivity.

When considering the implementation or upgrade of an eCitation system, law enforcement agencies typically need an estimate of its return on investment (ROI). Measuring the ROI of an eCitation system depends on many factors, including the amount of hardware required, software customization, and other factors, but as a rule of thumb, most systems pay for themselves within 6 months of installation, according to Eric Fultz president and CEO of Saltus Technologies. That return includes several variables, including, as noted above, recapturing lost revenues by eliminating errors and reducing administrative costs associated with manual ticket writing and processing; increasing the ticket-writing capacity of police officers by reducing ticketing time per stop by roughly 50 percent; and producing incremental increases in charges per traffic stops. Year-over-year, law enforcement agencies can expect a 20 to 50 percent increase in the number of tickets issued by implementing eCitation, according to Fultz.

However, despite the quick ROI associated with eCitation implementation, some law enforcement agencies face challenges in securing the capital investment required to purchase and install an eCitation system. As a result, some eCitation providers include the option of providing eCitation solutions under a software-as-a-service model (SaaS). A SaaS-based approach will typically include hardware, software, installation and training for a fixed monthly fee per unit. As a result, SaaS changes much of the cost associated with procuring eCitation from capital expenditure-based to operating-expenditure based. This is particularly important because other capital investments, such as that related to body cameras, are in high demand as law enforcement agencies work to increase transparency in policing.

Fultz pointed out that the per unit fee for the SaaS option is typically covered by writing just 1 or 2 additional tickets per unit per month, making the ROI practically immediate.

Part of ensuring a positive ROI is having a solution that can be scaled to meet a department's specific needs. "Today's solutions must be scalable and capable of growing with the ever changing landscape of mobility," says Alex Kottoor, CEO and Founder of SceneDoc, Inc.[11] "A robust solution that allows officers to collect notes, photos, video, and audio in addition to the citation data, while keeping all that data secure, will be a critical component in any modern law enforcement deployment. Privately-developed solutions are much more capable of meeting a department's needs as relates to growth than the software developed by government."

Another factor that can increase ROI is that some states support eCitation implementation with public funds. Some states provide grant that focus just on equipment purchases while others, such as Wyoming, provide matching funds for hardware, software, and training. As a result half the cost of an eCitation system can be paid for by a state grant in Wyoming as officials there view the grant as seed funding, meaning "successful applicants must match funding on a cash basis equal to 50% of the requested amount." Also, in many states, court technology funds, which come from fees assessed on individual tickets, can be used to pay for the systems.

It is also important to consider that there are other benefits to eCitation systems that accrue to the community being policed. For example, the Sand Springs, Oklahoma Police Department implemented a commercial eCitation system in March of 2009. The department acquired 23 digiTICKET units and

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[11] SceneDoc, Inc. provides mobile, all-in-one public safety software for data collection and retrieval, which includes an eCitation module. This software can be deployed via smartphone using CJIS compliant encryption technology that keeps data from co-mingling. SceneDoc is based in Toronto, Ontario, Canada.

related software at a total cost of $109,600 with an additional annual fee of $4,815 for annual maintenance.

Akshay Singh, Chief Technology Officer for Quicket Solutions, has made a similar point. "The ROI for eCitation grows substantially as the power of the cloud dramatically lowers the total cost of ownership through its elimination of the often-significant, upfront capital expenditures historically associated with the implementation of 'free' government-developed eCitation software, especially the costs associated with the purchase, installation and maintenance of on-premises servers."

According to a study by the Edomnd, OK-based Economic Impact Group, LLC, the police department in Edmond experienced a 63% increase in citation and court revenue. The City of Sand Springs reported an $8,500 annual reduction in administrative costs. More importantly, residents experienced a 67% reduction in traffic accidents resulting in an estimated saving of $2 million in societal costs, including damage to person and property. In total, the net value of net benefits was estimated to be in excess of $471,000 over a period of 5 years. Sand Springs Police also reported that vehicle collisions dropped 11 percent from May 2009 through May 2010.

Quicket Solutions' Akshay Singh also indicated that "storage of eCitation data can be very expensive for law enforcement agencies when using TraCS or other comparable software providers, as agencies are required to purchase or use existing on premise servers. Agencies should ensure their acquisition decisions leverage the tremendous economic benefits of cloud computing and cloud data storage, which eliminates buying and maintaining servers and, instead, offers a 'pay for only what you use' simple subscription model. Further, transitioning to the cloud ensures that your data is always backed-up at multiple off-site locations, which prevents data being lost due to natural disasters or on premise server failure.

Conclusion

At a time when political or social issues can place increased pressure on a department to choose one technology over another (body armor, body cameras, etc.), one thing is clear; there is no solution that works to the benefit of as many stakeholders as an eCitation system. Beneficiaries of such systems include the courts, the department itself, the insurance industry, the community and even the recipient of the citation.

However, there are a number of variables which must be closely examined before a law enforcement agency can make an informed decision about purchasing an eCitation system. Hardware components must be evaluated on price, utility, reliability and other key variables, while software choices are even more complex, often influenced by factors specific to the purchasing agency. While seemingly "free" software such as TraCS may have initial appeal, it is important to keep in mind that software is just one component in a complex system. Software offerings from private Value-Added Resellers (VARs) and Independent Software Vendors (ISVs) require additional initial investment, but can provide substantially greater utility and, when TCO is considered, may have an edge over government developed systems such as TraCS.

Information on what it takes for successful implementations is available from a wide range of sources, including law enforcement agencies that have already implemented systems and vendors of key system components. Another good source is the eCitation Coalition, which represents companies involved in

providing electronic citation systems to state and local law enforcement and court systems. Members of the coalition include VARs and ISVs as well hardware manufacturers and distributors. For more information, visit http://www.ecitationcoalition.com/ .