

RFID Automates Police Property and Evidence Management

The management of property and evidence - from collection, cataloging, storage, and any movement to their ultimate use or disposition - is one of the key responsibilities for a law enforcement agency. Agencies must meet strict requirements to ensure the chain of custody of the evidence collected is rigorously maintained. The challenge in managing a property unit is not only storing highly sensitive crime scene evidence but also tracking it. Every movement must be accurately documented and every item accounted for. In today's demanding, high-stakes criminal justice system, the loss or unavailability of evidence in a timely way is simply not an option.

RFID technology offers optimized accountability and location tracking for the people, records, evidence and assets typical to law enforcement agencies.



Key features of our system include:

- Hybrid Passive UHF RFID and Barcode integration to achieve lowest cost
- Search and Find function on the RFID handheld. Alerts for incorrect storage placement location
- Fixed Readers at Property Room points of egress add a crucial layer of security to prevent unauthorized item removal
- 2-Section RFID 'Buddy Labels' include Evidence Label and a 'Peel and Stick' copy for Officer's notebooks
- Individual user access codes and credentialing

**STATE OF THE ART
INTEGRATED EVIDENCE
MANAGEMENT**

- Capability to take evidence identification and chain of custody to the crime scene itself
- Web-Access Mobility through smart-phones, IPADs, tablets, etc.
- Continuous Chain of Custody Audit Trail automated with RFID
- Electronic Signature Capture
- Electronic Signature Authentication
- Full data conversion included with our initial Onboarding process from your existing property management system, and complete integration with RMS (Record Management Systems)
- Biometric Officer and Civilian Staff Identity Authentication using Palm Vein Scanning
- Automated Scheduled Alerts for property review, retention, sale and return to owner
- Powerful Multi-Application, Multi-Site **eQUIP!** Enterprise Software platform with additional plug-in modules for People tracking, Secure Access Control, Equipment and Tools Asset Management for government reporting, Maintenance and Work Order Management, Cost and Depreciation reporting, Fleet Mgmt., IT Asset Tracking, Physical Records tracking, etc.
- Hosted and Managed (SaaS) or On-Premise Service Delivery Models
- Outright Purchase or Lease



The use of Faraday and antistatic bags when magnetic media or handheld communication devices are seized. When an item is bagged, a chain of custody document must be initiated.

By combining RFID and Barcode-enabled evidence collection and tracking with other uses of RFID like document and file tracking and weapons tracking, the criminal justice system is positioned to enter a new era – one where real-time operational visibility can be extended across historically separate and challenging departmental and operational silos.

FSN's state-of-the-art Property and Evidence solution is a powerful and flexible software solution for managing everything in your police property room and evidence room and more. It provides law enforcement agencies an automated hybrid barcode and RFID system to manage and track any property and evidence including people, signatures, identity authentication, pictures and video. It enables an unalterable chain of custody record extending from the crime scene, to storage, to the lab, court room and to final sale, disposal or return to owner.

RFID solutions can deliver greater than 99 percent inventory discovery accuracy, and up to a 95% reduction in labor costs. It can increase asset utilization, enhance process assurance, reduce theft and losses, and give your organization reliable and cost-effective regulatory compliance.

However, most law enforcement agencies have evidence handling systems that remain largely unchanged from the 1950s. While many have deployed barcode identification, these critical items are often managed using paper-based systems, often without computerized inventorying and logging of evidence being checked in and out of the area.

Criminal cases have had to be dismissed before going to trial or lost in the courtroom due to critical items of evidence simply being lost in the evidence room or not available in a timely way.

Likewise, all across the country, charges have been brought against police officers for internal theft of valuable items – such as narcotics, guns, jewelry, electronics, and cash – stolen from evidence storage facilities.

“The Houston Police Department has discovered evidence from thousands of cases that was improperly tagged and lost in its property room, suggesting that problems with handling evidence may go back 25 years ...HPD officials said it appears that evidence from as many as 8,000 cases, from 1979 to 1991, was packed into the 280 cartons.”
Houston Chronicle

Several years ago, the Houston Police Dept. reported it had found 280 mislabeled evidence boxes in the department's property room.

SOLUTION OVERVIEW Once the evidence is tagged, the details of the item along with the unique serial number of the RFID tag attached to it is recorded into a Microsoft SQL database using the eQUIP software application developed by FSN software partner E-ISG Asset Intelligence. Fixed RFID readers placed at various locations throughout law enforcement offices and courthouses will read each tag as it passes within each reader antenna read-zone range, creating a record of each item's last known location. In the evidence room, for example, each evidence desk can also be fitted with a desktop or mobile handheld reader to record an item's location. Readers placed on exits from the evidence room would ensure that no unauthorized removal could take place by initiating a preselected security procedure (such as sounding an alarm or locking doors as well as initiating email or SMS text messages) should an attempt to remove evidence be made without authorization or the correct credential profile. The serial number of each tag would be linked to a database record for that item and could include all the relevant details regarding the item. In addition to enabling police departments to track the location of evidence, the system would also track custody of each item so that as the item moves from the police department to forensic lab, district attorney's office to the court, a record is stored for each change in possession and location of that item. The issuing of RFID Personnel Badge cards to police officers, administrative staff, clerical employees, court officers, prosecutors, defense attorneys and other individuals requiring access to the evidence room, the company says, would enable the readers to detect which individual was in possession of each item of evidence for accountability.

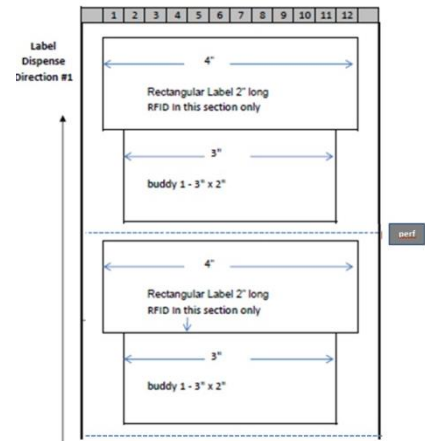
Passive UHF RFID ‘FSN Property Buddy Labels’

The FSN Property Buddy Label has 2 sections(4" x 2" and 3" x 2"), one for the item labeling and the other as an automated receipt for the officer notebook. Optionally, as this die-line diagram shows it could also have 3 sections which includes 2 peel-off sections. Compatible with Zebra R110Xi4, RZ400 and Toshiba RFID Printers.

Impinj Monza M4QT Inlay



We include the Smartrac Short Dipole with Impinj Monza M4QT integrated circuit. Its **True3D™ antenna technology** offers patented, dual-differential antenna ports enabling compact omni-directional tags and labels without blind-spots, improving item-level read reliability with long read ranges irrespective of tag orientation. Extended temperature range (-40 °C to +85 °C) for reliable performance under hard conditions. The IC features a factory-programmed 64-bit serial number that cannot be altered. The short dipole is very common in many logistics tracking environments and offers significant cost savings.



RFID & 1D/2D Barcode Printer/Encoder

Zebra R110Xi4



With our unique 2 section Buddy Label, there is no longer a requirement for separate Receipt Printers or Receipt media stock for Police Officer notebook copies. However, a form of receipt would be required upon return of seized or lost property to original owners which would use the Form Generator feature of the eQUIP! software along with a Signature Pad. The Zebra R110Xi4 is rugged and optimized for high volume, multiple users and its intelligence automatically determines the location of the RFID Inlay. FSN also includes the RFID Label Design software Bartender 10.0 from Seagull Scientific.



Toshiba B-SX5 and B-EX4T1

FSN supplies Labeling Design Software compatible with these RFID enabled printers from Seagull Scientific (Bartender Enterprise RFID), Labelview, Nice Ware and Loftware are also compatible.



RFID Readers

- **Mobile Handheld RFID/Barcode Readers**
- **Desktop Readers**
- **Fixed and Portal Readers**

MOBILE HANDHELD RFID READERS

The ALIEN 9011 is the fully-featured version and represents, in our opinion, the best value for money. Key features for the Police EPU application includes Passive UHF RFID, both 1D and 2D barcode scanning, rugged IP65 rated yet light weight, GPS to easily record evidence location accurately, 3MP Camera with flash for situations where the police camera is not available and to easily associate photographs with the evidence ID, long service periods with back up battery, Bluetooth, WIFI and Cellular HSPDA for areas beyond WIFI coverage.



FIXED AND PORTAL READERS - AT THE POINTS OF EGRESS OF THE PROPERTY ROOM

Missing property and evidence, especially drugs and guns, creates unwanted headlines. To assist in preventing these potentially harmful circumstances, FSN recommends Fixed Passive UHF RFID

Readers(RFID Portal) at all Exit doors from the EPU. These Readers and Antennas will detect any RFID tag moving within its read zone at the doorway. We position antennas such that the direction of travel is

also determined and reported. Our software is configured such that any RFID tagged item which is detected generates an alert (audible alarm, light stack, email/SMS, video camera or door lock) unless accompanied by an authorized or credentialed staff member (if they are provided with Employee RFID ID badges). This further enhances the security strength of Chain of Custody.

Impinj's Speedway® xPortal™ solves the size and mounting limitations of traditional portals with a light-weight, low-profile unit that is as attractive as it is effective. Measuring approximately 30.5 x 8.75 x 2 in (77.5 x 22.2 x 5 cm) and weighing less than 6.5 lbs (3 kg), its compact form is unobtrusive, streamlined, and ultimately flexible, yet delivers better performance than larger, more costly industrial-scale portals. Designed for retail, office, hospital, and other indoor environments, the Speedway xPortal reader is ideal for monitoring tagged items, pallets, equipment, files, or people passing through doorways, hallways, or other zonal coverage areas.

Total zone coverage

The Speedway xPortal reader integrates high-performance Impinj-designed Dual-Linear Phased Array (DLPA) antenna technology with beam switching and polarization attributes that are dynamically managed by the reader. The system's DLPA antenna configuration provides broad coverage of the read zone, as the elements continuously alternate between vertical and horizontal polarizations, delivering full omni-directional power with greater consistency and intensity than circularly-polarized antennas.

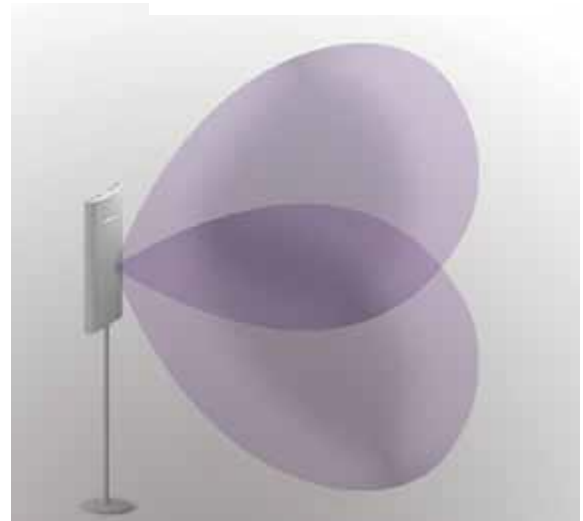
Harnessing the Autopilot capability, the Speedway xPortal senses exactly where tags appear in the field, automatically optimizing the read zone for the best, most efficient level of performance. And the Speedway xPortal reader's Low Duty Cycle function conserves energy while also eliminating unnecessary RF noise by limiting operation to only times when tags are detected within the field of view.

Mobile Readers for the Districts:

Police Districts requirements may be met with a less technologically advanced Reader device. For example, read range is not as critical in the district application as it is for a large EPU room. However, 1D and 2D barcode scanning would be a requirement as would rugged construction. Leveraging Smartphone device technology may meet these requirements. This can be accomplished with either a Bluetooth or USB tethered mobile barcode scanner with the Smartphone. Districts may wish to consider procuring Smartphones with integrated 1D/2D barcode at their next hardware refresh cycle or procure separate devices now. These could also be used with the in-vehicle laptops. For the latter scenario, the following is offered as an option.



X-Portal A look Under the Cover



The Speedway xPortal DLPA antenna configuration provides full omni-directional power and zone coverage.

CAEN qID Mobile Reader for Bluetooth Devices

R1240IB - qID – Wearable Bluetooth UHF RFID/BARCODE Reader

Introduced to the market in 2013, the **qID** is a fully integrated UHF RFID USB/Bluetooth reader with 1D/2D Barcode. The device is a cost-effective add-on for any Bluetooth enabled host such as PCs, a smartphones, PDAs or tablets as an alternative to integrated handheld readers.

The **qID** has a settable output power for reading from a few inches up to 3 feet with an integrated dual linear polarized antenna. It includes the 1D/2D barcode imager.

This reader can work both in "on-line" mode, connected to any bluetooth (and also USB) device including Android and iOS devices (we are Apple certified) and also in "off-line" mode and run some scripts you can activate using the trigger button (for example read and store up to half a million of EPC, or read a barcode and program the RFID tag with the same code etc.). Our eQUIP! software provides a full menu system on the Smartphone or Tablet screen, to guide users through processes. It can be used for Check-In, Check-Out, Shelve, and barcode scans of storage lockers. Read Range is typically 1.5m.



Electronic Signature Capture



Signature Tablets are all USB powered with cordless, battery-less interactive pens manufactured by WACOM, the industry leader. The basic unit is included as well as more fully featured tablet options for consideration. The optional signature tablets all have increased signing space. The DTU 1031 and DTU 1631 both allow a view of the document requiring the signature.

Electronic Signature Software and Authentication

Signatures are one of the oldest traditional forms of identification but do require authentication.

Without an Authentication capability, signatures and therefore the unbroken chain of custody can be questioned. New equipment issues to Officers and transfers can also be tracked by capturing electronic signatures at the time of the transaction.

XYZMO is one of the world's most complete, open and signature-pad-independent, electronic signature software companies. Thanks to XYZMO's signature solutions, stamping and signing remain as easy as ever, but are performed directly in the electronic document and can be easily integrated with any existing application or document workflow procedures. XYZMO SIGNificant is a private company based in Ansfelden, Austria, with international offices in the United States and Germany. XYZMO offers compatibility with iPad and Android devices with free APP downloads for mobile applications in addition to the WACOM signature tablets profiled herein. Current users include banks, retail shops including Vodafone and T-Mobile in the USA, Insurance companies and mobile sales forces.

The basic module - **SIGNificant Server** software includes the drivers needed for interworking with the WACOM Signature Tablets and capture signatures.



You can:

- Capture a biometric signature, with a natural signing experience like pen on paper. Signatures are captured and stored as biometric signatures which includes the parameters of pressure, acceleration, speed, and rhythm,

which can be later reviewed by forensic specialists. This could be useful in determining the validity of claims of property not returned.

- Browse through the document requiring a signature, zoom in and out
- Insert a text annotation
- Add attachments such as a photo or driver's license
- *The Optional software component is the signature authentication – called SIGNificant BioServer.*

if you choose
 "add to document"
 your photo will be added
 as PDF attachment
 ... later on
 anybody can extract the
 attachment from the PDF
 with e.g. Adobe Reader



It enables the real-time verification of a person's signature—a key requirement for strong evidence of chain of custody. The possibility of a detailed protocol for each signature-relevant action makes it a total solution; documents are only processed if their signers are authenticated and companies can prove who signed which document and when.



Note: On the subject of Authentication, It should be highlighted that eQUIP! out of the box and for no additional cost may provide a prompt for a password before a form or document for check-in or check out can be signed. While not a strong authentication method by today's standards, it is available as a substitute for capturing signatures of officers if Police and legal procedures permit. More importantly, it offers the first of a potential two factor authentication procedure with biometric authentication via

Palm Scanning being the second factor. Together, a very strong 2-factor security procedure is created which is world-class. With this in mind, we profile in this next section an optional biometric authentication technology for integration in this system.

Biometric Officer and Civilian Staff Identity Authentication



Biometrics is the third factor—“something you are”—in the classic authentication model (in addition to something you have (Card) and something you know (Password or PIN#), effectively tying a person to an identity claim and enabling identity recognition far superior to that offered by password, PIN, or card-secured systems.

Palm Vein Scanning ranks highest in overall identity efficacy—provides the same superior level of reliability and accuracy of iris recognition, with the ease of use and lower cost point of fingerprint recognition. Additional advantages include contactless—therefore hygienic and high user acceptance.



PALMSECURE ID is FSN's industry-leading hardware and software integration based on Fujitsu's unique Palm Vein Scanning technology. Like Fingerprints and Iris eye patterns, each vein pattern in the palm of the hand is unique to each individual including those born as twins. The right palm is different from the left. It is hygienic, contactless, more accurate and less invasive than fingerprinting and iris scanning with authentication response speeds less than 2 seconds. This offers a highly reliable, contactless, biometric authentication solution that is non-intrusive and easy to use in a small cube-sensor form factor which is normally encapsulated with hand guide and LED verification of a palm read and match. PalmSecure™ technology has been deployed worldwide in a wide range of vertical markets, including security, financial/banking, healthcare, commercial enterprises and educational facilities. Additional applications include physical access control, logical access control, retail POS systems, ATMs, kiosks, time and attendance management systems, visitor ID management and other industry-specific biometric applications.

Several versions of hand guides are available to ensure consistent hand positioning over the scanner.

This same technology platform can be further leveraged for secure Access Control and Time and Attendance applications. It can also be used in a mobility sense in terms of moving the unit to do enrollments at remote locations.

- Contactless palm vein authentication is fast, hygienic and non-invasive
- No biometric footprint or residual trace left behind after authentication
- Advanced biometric authentication algorithm produces a high level of accuracy with low FAR (false accept rate) and FRR (false reject rate)
- Fast and easy enrollment for all users with virtually no registration failure
- Robust biometric controller can be mounted remotely in secure area
- Encrypted template repository
- Compact design with flexible integration for easy installation into existing
- access control systems via Wiegand or IP interfaces

RFID for Records Tracking

In the court systems, getting files to the right lawyer to the right court, to the right Judge, on the right date can be a real challenge. Case management systems abound, but true records management– the identification and location tracking of the physical files– is still a need.

As RFID-enabled Personnel Badge cards and electronic IDs are integrated into police agencies, the “who” actually handled the item and had it last can be automatically recorded without any human intervention as well as the “where” and “when”.

The handheld reader used in FSN's system not only tags the evidence on-site, and stores the tag reads until network availability or docking allows downloading but also can be used to capture a digital photo of the item in the field which is registered and attached to that evidence ID number in the database.

Active RFID tags may also be integrated to alert personnel in the EPU as soon as highly strategic items such as drugs, guns and cash are moved. Others, tagged only with lower cost EPC Gen 2 UHF passive tags or labels, will transmit an alert only if moved within range of a fixed Passive UHF Reader.

Automated Retention Scheduling

Initial item registration will also include a retention plan and initiate alerts as those dates approach in order for an item to be reviewed for further retention, destruction or return to original owner.



Locate Evidence on **graphical maps** of your floor plans.

Mobile Access to the eQUIP system is available on any device (Windows, I, Android, Blackberry)

The customizable solution includes:

- Detailed evidence information
- Documented evidence check out/in
- Chain of Custody Reporting
- Evidence retention/return/auction/disposal scheduling and reporting via Barcode and RFID
- Evidence photo files
- Evidence list by Officer
- Evidence list by evidence type
- Evidence list by Defendant
- Evidence list by Case #

Quickly enter data through scanning and drop-down lists:

- Evidence label
- ID Badge
- Property Room Location Grid Barcode
- Case Number
- Incident Types
- Defendant File
- Evidence Type

Replace manual sign-out logs with an automated scanning process which offers these benefits:

- All evidence movement is Date/Time Stamped
- An Auditable History File is Easily Viewed
- Evidence is Tracked by Location
- Standard Reports for Checked Out Items
- Pro-Active Evidence Management: Overdue Notices and Smart Alerts such as “misfiled record location”

ASSET TRACKING:

Each asset profile can be expanded to include an unlimited number of data fields, which can be dynamically defined by a user. Typical item information includes, but is not limited to:

- Asset Number
- Model and Serial Number
- Manufacturer
- Acquisition Date
- Purchase Order Number, Invoice Number
- Cascading Location (Building, Room, etc.)
- Classification
- Item Category
- Date of last Inventory
- Inventory Audit and Reconciliation
- Warranty and Support Contract Details
- Miscellaneous Asset Characteristics
- Cost Center
- Asset Depreciation
- Vendor
- Custodian Employee Name & Contact Info
- Asset Status
- Equipment Maintenance History and Alerts for scheduled calibration and preventive maintenance
- Temperature and Expiry Date Datalogging with alerts for evidence in refrigerators and freezers
- Miscellaneous Comments



Once an RFID tag is read, the above information can pop up on the screen

Select locations to audit. For property rooms too large to be audited at one time, create rolling audits so that the audit can be broken up over time and over selected

locations.

Record audit exceptions. Note exceptions to the audit, document missing or extra property items, and make note of any damaged items. **Configure the system.** Configure the P&E system to match the agency's SOPs.

Define storage location types. Set up the various types of storage locations (room, bin, shelf, refrigerator, vault, vehicle bay, etc.).

Set up storage hierarchy. Specify the storage hierarchy for each storage location (such as multiple property rooms, on- and off-site labs, dry rooms, etc.).

Identify package types. Set up the system with any number of package types (gun box, brown bag, latent envelope, sexual assault kit, etc.).

Create property item categories. Create item categories (foreign currency, license plate, media, luggage, etc.) to assist in search and analysis.

Configure analysis types. Set up various analysis types (DNA, Latent Prints, Narcotics, etc.) and track physical evidence processing throughout the lab.

Create custom fields. Set up any number of custom fields for agency-specific SOP needs.

Lay out barcode labels. Customize the contents and layout of barcode labels. **Print reports.** Generate numerous reports to list property items and sub-items, chain of custody, item status, bar coded audit reports, analysis reports, plus other reports useful in managing the property room.



Asset Tracking and Management Software

eEQUIP! is a multi-application enterprise Asset Tracking, Monitoring and Management software platform ideal for this EMS application but which may be further leveraged for asset and people tracking and secure access control.

eEquip! is a leading software that demands accountability from its users while providing an intuitive interface on a flexible platform. eEquip! has an excellent track record when applied to demanding high value, strategic or critical projects.

The world's top defense contractors, military and governments use eEquip! to manage equipment and their most precious resources. Many of these agencies must adhere to the most demanding of requirements when managing the data; every transaction must be accounted for.

eEquip!'s platform is proven to have the capability and resiliency needed to meet this immense responsibility, that is ensuring the 7 x 24 operational quality of CPS Property and Evidence identification, location tracking and chain of custody management . There are many key features that makes eEquip! the best choice for this application:

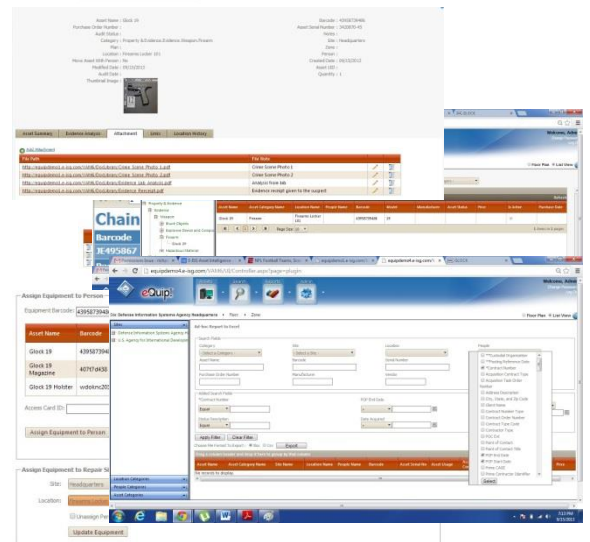
- eEquip! "out-of-the-box" meets or exceeds requirements but is further customizable
- Lowest expansion costs - No additional site license fees when you add more sites. Leverage the single, centralized hosted platform
- eEquip! is a web based application, it can be operated using Internet Explorer, Google Chrome or Firefox.
- Locate Evidence on graphical maps of your floor plans.
- eEquip! is mobile, 100% functionality using an iPad, Android, Windows or Blackberry tablet
- One of the most flexible applications on the market, many software modifications can be accomplished by the system administrator (no tech experience needed!)

- Gold Level Support – 24/7 phone and email support, customer service reps can immediately launch webinars to tackle more sophisticated problems
- Dashboard Key Performance Indicators display the systems most vital information directly on the application's home screen
- The same eQUIP! platform can serve the entire enterprise for other Asset and Facilities Management and secure access control functionality
- No limit on number of items tracked nor users with our unlimited user license
- **Comprehensive functionality and Enhanced Custom Reporting:**
- eQUIP!'s built in reporting capabilities allow agencies to create and access an unlimited number of customizable reports. Reports that meet the needs of Crime analysis, UCR reporting, NCIC reporting, impounded vehicles, Municipal, Provincial or Federally mandated reporting and ***much more.***



Screen Shot Examples

- Asset Audit Tool
- Attach any electronic file to the property item record
- Chain of Custody Audit Report
- Classify Property with Customizable Categories
- Easily Modify Permissions for every aspect of the application
- Assign Equipment to a person
- Easily create ad-hoc reports



With this integrated solution approach with FSN, you no longer need to worry about multiple service contracts and additional expense. Plus, you'll gain the confidence of knowing our complete system is managed by a team of dedicated forensics domain experts with the industry knowledge to understand and respond to your specific needs.

Interested in a detailed proposal.....





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