

# Right on Track

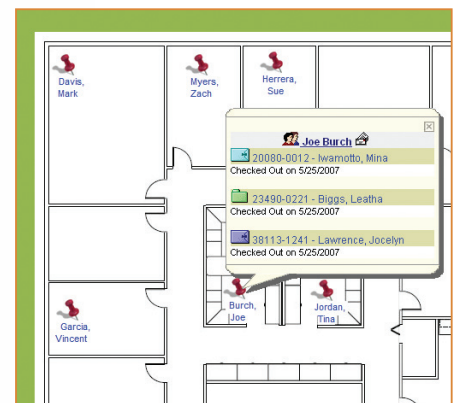
Evolutions in radio frequency identification technology help legal administrators to meet their attorneys' urgent file request needs.

BY TOM PEMBERTON  
FILETRAIL INC.

Legal administrators have long been caught between attorney demands for quick access to physical files and the limitations of reality. On one side, attorneys demand files and often make life uncomfortable when support staff cannot produce them quickly. On the other side, finding any file on demand is difficult, and even bar code tracking systems have not solved the problem. Today, the latest radio frequency identification (RFID) technologies are helping legal administrators to meet their attorneys' file access needs.



**FILETRAIL RFID**  
THE TECHNOLOGY FOR TRACKING



The ability to hunt for missing files with a portable RFID reader makes it a premier time-saving tool.

FileTrail QuickMaps and RFID technology make it easy to locate a specific file using your floor plan, or to review what files a specific person has.

All photos are provided courtesy of FileTrail Inc.

## FROM THE BEGINNING

RFID technology has been used for file tracking in law firms and legal departments since 1999, but faced limitations until recently. The RFID technology first used for file tracking came from the library industry, and its value over bar coding was immediately apparent. For example, a stack of files as tall as 10 inches could be read with an RFID reader instead of handling each file individually to scan its bar code. However, like bar coding, this technology still required active participation by staff and attorneys to ensure accurate file locations, and this limitation kept it from being widely adopted.

Now, a new RFID technology standard – called “Gen 2” – provides lower costs and new capabilities in file tracking. Read distance has increased from 10 inches to 12 feet, prices are substantially lower, and new capabilities eliminate the need for staff and attorney compliance with the tracking system. Gen 2 technology allows file tracking to be done automatically without any changes in the ways staff and attorneys work.

## THE FUNDAMENTALS

RFID is a technology whereby radio waves are sent from a reader. These waves are picked up by a tag that signals back its unique number. The presence of a tagged folder is seen at a reader’s specific location, and this is reported to tracking software that updates a records management database.

Two principal RFID technologies exist. Active RFID involves the use of batteries on RFID tags. Active tags are expensive, require battery changes, and are used only for tracking high-value assets. In comparison, Passive RFID involves battery-free tags powered by energy inherent in radio waves from the reader. Passive RFID tags, which are inexpensive and require no maintenance, are appropriate for law firm libraries and file room use.

High Frequency (HF) refers to an RFID technology that became popular in the 1990s. It operates on a radio frequency of 13.56 MHz (megahertz) and is widely used in libraries. HF RFID provides faster check-in and check-out than bar coding. Also, it can provide security controls in a gateway or chute at the library exit to prevent book theft of books. Ultra-High Frequency (UHF) refers to the newest RFID technology. It operates on a radio frequency of 915 MHz and is widely used in many companies

that are not locked into HF technology. UHF RFID provides longer read ranges, lower tag costs, and new capabilities that eliminate the need to install gateways or build chutes to control files.

## ABOUT GEN 2 RFID

In November 2005, the new, Gen 2 RFID standard fixed the limitations of HF RFID. Gen 2, which operates at a frequency of 915 MHz, is designed to meet supply chain management requirements. Such requirements are similar to those in a legal environment: item tracking among many locations, unattended capture of tracking data, a high degree of accuracy, and a long read range.

In contrast, HF operates at a frequency of 13.56 MHz, has short read ranges, and is attended (requiring deliberate action by a person). While HF will continue to be used in entrenched markets, such as libraries, most research and development funding and manufacturer production will be for Gen 2.

Besides lower costs of 50 percent or more, Gen 2 delivers significant advances in RFID utility, including:

- read ranges increased from 10 inches to up to 12 feet;
- better reading of tags in tag-dense environments; and
- passive tracking support from Ethernet networks.

Another beneficial result of Gen 2 technology is that RFID tags are finally considered disposable. Many of FileTrail’s clients who implemented HF RFID, such as the U.S. Department of Labor, devised special procedures to reuse their HF tags because of their high cost. Clients implementing Gen 2 solutions are not reusing tags because the cost of labor to remove and reapply the tag is higher than the cost of the Gen 2 tag.

Also, placement of RFID tags is no longer a concern with Gen 2. With HF RFID, clients were advised to place tags randomly because tags that were aligned in a stack of files would not be read. The tag-dense performance of Gen 2 makes it cheaper to buy folders and filing media pre-tagged, which saves a lot of labor.

Ultimately, the improved performance and lower cost of Gen 2 technology make RFID viable for law firms and legal departments of all sizes.

Tom Pemberton, *Vice President of Product Strategy*, FILETRAIL INC.

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### **PASSIVE TRACKING**

The new capabilities of Gen 2 RFID allowed FileTrail to pioneer the concept of Passive Tracking, which provides continuous and automatic tracking as files move from desk to desk and office to office without the need for staff compliance. The files tell the system where they are.

One drawback of bar code tracking systems is that they require active participation. The fact that attorneys and staff will not use tracking systems is so widely accepted that many law firms have no such systems. These firms see little value in knowing who checks out a file when the file never remains with that person.

Other firms have remedied bar code tracking’s shortcomings by implementing an audit process. Each week, staff members use portable scanners in every cubicle and office to update the location of files. Even with this effort, the tracking system is truly accurate only once per week.

RFID solved bar code tracking system problems by eliminating searching and saving labor. In the lowest-cost implementation, RFID cuts audit labor by more than 80 percent. At Sughrue Mion, the weekly audit of 5,000 to 6,000 files at 200 offices and cubicles used to take 32 hours. It is now done in about just over four hours using FileTrail RFID.

In a full RFID implementation, Passive Tracking captures every movement of every file, and attorneys and staff go about their normal activities. Sophisticated middleware – software designed to accommodate the processes found in law firms and legal departments – manages communication with Gen 2 RFID readers and passes transactions to the records management system.

### **HOW YOU CAN USE RFID**

RFID is a powerful technology for automating law firm and legal department processes that are

typically performed manually. RFID provides process improvement in several key locations:

- **File Room Workstations.** At a file room workstation, an RFID reader is directly connected to the computer and used to automate basic processes, such as check-in and check-out. The RFID reader at a clerical workstation is also used in the most critical RFID process – cataloging new items. When a new file is created, an RFID tag is applied, and the RFID reader will be used either to program the tag with a value or to retrieve the value from a pre-programmed tag. FileTrail supports both processes.
- **After-hours Workstations.** Many law firms have workstations set up to make it convenient for attorneys to check out files they take from the file room after hours or during weekends. Compliance, however, is typically very low. RFID eliminates the need for compliance. In most cases, attorneys can access file rooms using only their security badges. The combination of a badge reader and a Gen 2 RFID reader makes the check-out process automatic. A monitor displays everything for the attorney to see, which raises awareness that a new tracking technology is in place.
- **Automatic Check-in.** RFID eliminates the check-in task in the file room. This saves time, but also eliminates the fruitless situations in which staff members may search for a file they think is checked out, but is actually in the file room waiting for someone to check it in. A pair of RFID readers inside the file room door automatically reads tagged files that come in the door.
- **Cubicles and Offices.** One of the biggest issues with tracking systems is that the files move after being checked out. After the first move, the tracking system is no longer accurate. Gen 2 RFID provides the first practical solution to this problem. The long read ranges of Gen 2 RFID allow users to

passively track files. With read ranges up to 12 feet, RFID readers can be placed in a ceiling, under a desk, or in the wall to track the movements of files from desk to desk and office to office.

- **Common Areas.** RFID technology can also be used to track file locations into common areas. In normal workflows, files often come to rest in a case room, war room, conference room, or other area. Determine which locations have enough value to be worthwhile as a tracking location and employ RFID technology accordingly.
- **Exits.** One of RFID's most interesting capabilities is the ability to use it in conjunction with other technologies and business rules to monitor exits. While this is most significant in high-value environments, such as museums, it has value to law firms and legal departments as well. Exits can be monitored with the same type of readers used in offices and conference rooms. The difference is the application of business rules, combined with e-mail, lights, or alarms to alert staff when an item that should not go through a doorway has.

## RFID ON A PORTABLE PLATFORM

A portable RFID reader is one of the most valuable time-saving tools for a law firm or legal department. Today's portable RFID readers are built on a standard PDA platform running Windows CE. A color touch screen makes operation simple and intuitive for anyone.

A portable RFID reader automates several common processes:

- **Locating Missing Files.** A portable RFID reader's most valuable function is hunting for desperately needed files. The conventional approach involves manually searching every drawer, cabinet, and stack in every office and cubicle. Gen 2 portable scanners can be adjusted to read up to five feet, which makes sweeping through an office very fast and reduces disruption to attorneys and staff.
- **Office-wide Audit.** A portable RFID reader can complete audits of desks and offices in about 20 percent of the time as a bar coded inventory and 5 percent of the time of a manual inventory, with less chance of inadvertently skipping files in the



With FileTrail you will never lose a file again. It's hard to add up how much a lost or misfiled file cost. The emails that interrupt everyone in the firm, the frustration of the partners, the collection of files in some offices. All of these are costing the firm money.

**"We realized the amount of time we spent managing case files was huge. FileTrail RFID is cutting that time by 75%."**

**Lee Reichert, Partner  
Kamlet Shepherd & Reichert**

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process. Locations of files will be updated. The ability to get a reconciliation report depends on your records management system's capabilities.

- **File Room Inventory.** A portable RFID reader can complete file room inventories quickly, and an order-checking process can help find mis-files.
- **Boxing Files.** A portable RFID reader speeds the process of boxing files for storage. Typically, boxes are only bar coded, which is OK because most portable RFID readers also contain integrated laser scanners. The vendor software on these readers is typically built to use bar code and RFID interchangeably.
- **Shelving Files.** A portable RFID reader can also assign files to a shelf. This is especially useful in an environment where the shelf-specific location is important, as when using dynamic filing system where files are refiled on any shelf that has space and sorting is done within only the shelf.

### PRACTICAL IMPLEMENTATIONS

Implementing a practical RFID solution does not necessarily mean you will automate all of the areas discussed in this article. The unique attributes of each administrator's environment will determine which areas warrant automation. Consider the following three common scopes of automation:

- **Full Coverage.** Full Coverage applies the Passive Tracking concept and automates tracking everywhere, including file rooms, cubicles, offices, and common areas. Files are tracked from desk to desk and office to office automatically, with no participation by attorneys or staff. Full coverage solutions are economically viable for intellectual property (IP) practices of large law firms, boutique IP law firms, and large legal departments.
- **Cubicle Coverage.** Cubicle Coverage automates tracking among the file room and staff cubicles. Files are tracked from desk to desk automatically, without staff participation. Cubicle Coverage solutions are viable for IP practices of large law firms and boutique IP law firms where person-to-person file transfers are normally handled by secretaries and require less hardware.
- **File Room Coverage.** File Room Coverage automates all file room processes, including check-in, check-out, archiving, and more. File Room Coverage solutions are economically viable for large law firms and small- to medium-sized legal departments.

### COMMON CONCERNS

Despite the many benefits, RFID solutions still have some challenges that merit an administrator's attention.

- **Over-reliance on the Technology.** Organizations acquiring a new technology tend to treat it as the solution to some issues for which it was not intended. RFID is a tool for tracking, as bar codes are. It can be used for detecting mis-files – files out of order on the shelf – but the labor required is huge, and it is more cost-effective to use color coding. Remember, just because you have a shiny new hammer does not mean that everything is a nail.
- **Selection of Locations.** It is easy to make location selection for RFID equipment too complicated. Always remember that you are looking for locations where files move in common workflows. A site survey will help you stay focused on the value of each location.
- **Too Much Too Fast.** It is easy to get excited about RFID and its capabilities. However, practicalities of what can be done in a short time – and within budget – may result in planning a multiphase implementation. At the start of an RFID project, many things take ample time to complete, such as tagging the active files.
- **Interference.** All RFID equipment is regulated to limit interference, but shielded equipment containing speakers may be disrupted if the equipment is close to an RFID reader. This will not happen with quality office equipment. Any issues of interference should be discovered and resolved during the initial site survey.

### MOVING FORWARD

RFID is a proven technology for tracking, and recent advances have made it affordable to law firms and legal departments of all sizes. Consider Gen 2 RFID for your organization to eliminate the compliance issues that hinder bar code tracking systems and to make your firm more efficient and profitable. ✨

#### *about the author*

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