

## Resources

### GAO Report: Radio Frequency Identification Technology in the Federal Government

[www.gao.gov/new.items/d05551.pdf](http://www.gao.gov/new.items/d05551.pdf)

### RFID Update

[www.rfidupdate.com/](http://www.rfidupdate.com/)

### RFID Journal - RFID (Radio Frequency Identification) Technology News & Features

[www.rfidjournal.com](http://www.rfidjournal.com)

### EPCglobal Inc. Home Page

[www.epcglobalinc.org](http://www.epcglobalinc.org)

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Association for Competitive Technology  
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# RFID



Radio Frequency Identification

## Government Decision Makers

### Guide to RFID



### National Electronic Commerce Coordinating Council

NECCC is an alliance of national state government associations dedicated to advancing electronic commerce within the states. Working together, Alliance partners and affiliates are able to address key issues affecting the implementation of state services in the online world.

For more information, visit [www.ec3.org](http://www.ec3.org).

**A** white paper containing more information about RFID is available on NECCC's Web site at [www.ec3.org](http://www.ec3.org).



Image used courtesy of U.S. GAO

## What are RFID tags, and how do they work?

RFID tags are electronic chips that emit radio signals. Tags can be active or passive. Often an RFID tag contains only a unique identifier although some may contain more information. Different tags transmit at a distance that may be limited to a fraction of an inch or extend to 1,500 feet. The system with which a tag communicates often creates and stores information about where a tag is, what time it passes a reader and may relate that information to a purchase or the movement of materials or people.

## Why use RFID?

RFID fills a gap in technology and business requirements. Use of RFID does not require contact or line of sight and has a variable range of transmission. These qualities meet a wide range of business needs that will reduce costs and improve material and personnel control.

## Have standards been developed for RFID?

Several organizations are working to develop standards for RFID. One such organization is EPC Global which is developing standards for the global supply chain.

## How are industry and governments currently using RFID and what is its future?

RFID applications are limited only by the imagination! Many will become cost-effective as the price of individual tags declines and advancing technology opens the door to further opportunities. Some applications are suggested below:

- **Supply chain automation/warehouses** - Improve supply chain efficiency for the movement and tracking of supplies, decrease shrinkage, improve inventory management. (U.S. Department of Defense)
- **Asset tracking** - Comply with federal mandate to track tire sales or baggage. (McCarran Airport, Las Vegas, Nevada)
- **Medical applications** - Comply with federal regulations to track prescription drug distribution, limit counterfeiting, and prevent theft. (Massachusetts General Hospital)
- **Security** - Identify and prevent the unauthorized removal of items from data centers; control access, exit and movement in buildings, compounds and networks. (Building Access ID Cards)
- **Retail** - Decrease retailers costs, improve inventory management, and improve service to customers. (Walmart)
- **Livestock** - Increase efficiency of livestock handling and improve tracking of US food supplies from farm to table. (U.S. Department of Agriculture)
- **Transportation** - Improve payment of tolls or fares. (EZPass)
- **Libraries, files and archives** - Enhance document and item identification, tracking, chain-of-custody control and circulation management. (Maricopa County, Arizona, Library and District of Attorney's Office)

## Legal and Policy Implications

RFID is a promising technology, but its use raises issues for public policy makers. Many of the questions and concerns about RFID actually are common to a broad range of information and communication technology, such as the interception, manipulation, interrelation, privacy, security and theft of information. In many cases, these concerns are covered by a variety of existing laws and regulations at local, state and federal levels of government. An informed policy is the best way to address concerns, mitigate unintended consequences and reduce inappropriate use of personally identifiable information. In addition, government policy to foster responsible deployment of RFID in a manner respectful of privacy and to inform citizens about its use can also mitigate some of these concerns.

## What is new or different about RFID?

Depending on their range, some RFID tags can be read at a distance without the knowledge of the tag holder. There usually are not off/on switches to control the transmission by the person holding the tag. This potential to read tags without the tag holder's knowledge is the basis for much of the concern about use of RFID. Any threat, however, is proportional to the level of information stored on the tag and any encryption or filter process utilized.

## Will RFID allow new information to be collected?

RFID tags can collect the same information as other technologies currently in use, such as Uniform Product Codes (UPCs). New uses of RFID, for instance in driver's license, however, could expose personal information either stored on the identity card, or information that tracks movements of the card holder.

## What information in supporting databases could be connected through an interaction with RFID?

Currently, it's possible to link any and all information about an object to its location. This capability exists with or without RFID. Policies that are technology neutral can address these concerns without targeting specific technologies that may change and develop over time.