Chapter 3.7
The Little Chip That Could:
The Public Sector and RFID

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ABSTRACT

This chapter provides an overview of RFID (radio frequency identification) and the emerging use of the technology in the governmental sector. It examines the fundamental aspects of what RFID technology is, why there is a need for it, and how it is advantageous vs. present bar code technology. The chapter provides a look at how RFID is being used today, both at the federal and state/local levels of government. It looks at the major RFID initiatives being undertaken in the military and the governmental supply chain, as well as creative uses of the technology for improving public administration. The purposes of the chapter were to raise governmental executives and academicians' understanding and awareness of RFID technology and to spotlight the technological, business, and privacy considerations that will be raised over the next decade with the advent of what has been described as nothing less than a "weird new media revolution."

INTRODUCTION

What if…:

- A worker at a distribution center could instantly identify each and every one of the items contained in every box on a pallet on the tongs of the forklift she is driving?
- A librarian could locate a book that had been hopelessly misshelved?
- A worker at a livestock processing facility could instantly access the identity and history of a cow?
- A hospital could locate critical medical devices instantly, wherever they are located throughout the facility?

- A pharmacist could tell that two bottles in his supply of a high in demand, highly addictive prescription drug are counterfeit?
- A military contractor in Baghdad could instantly locate the necessary spare to repair a Blackhawk helicopter for an imminent mission?
- A golfer could instantly locate his errant shot and retrieve the ball from the thicket where it landed?

These scenarios are not science fiction. In fact, all are fast becoming possible today through the advent of RFID (radio frequency identification) technology.

What is RFID? Surveys have consistently shown a lack of RFID awareness and an overall lack of understanding about the actual capabilities—and limitations—of automatic identification technologies. Less than half of the general public (41%) have an awareness of RFID technology (Collins, 2005). Likewise, board-level executives were roughly equally divided between those who were up to speed on RFID technology (45%) and those who had no idea what it was (43%) (Best, 2004). There is also an "RFID gender gap," as men are more than twice as likely as women to be aware of RFID and significantly more likely than women to perceive the whole concept of using RFID to track products as being a "good idea." Thus, as has been the case with other radical technologies (cell phones, the Internet, high-definition television), men tend to be in the lead in terms of their overall knowledge of and interest in the technology (Wyld, 2004a).

This chapter is aimed at informing public sector executives and policymakers about this important technology. We will overview what RFID is, how it came to be, how it works, and what you need to know about the technology that will likely becoming a driving force in the economy of the 21st century. We will examine some of the emerging uses of RFID in the public sector, as well as some of the privacy concerns that accompany the technology. Finally, we will look at the proper role for government with what is emerging a new media technology.

RFID 101: THE BASICS OF TECHNOLOGY

The Roots of RFID

Throughout history, there has been a need to identify "things." By identifying things, we can sort, classify, request, ship, account for, look for, and so forth, specific objects. We can do so for our personal use, for business purposes, and even for governmental functions.

As a society, we have come to expect that certain "things" would be—must be—uniquely identified. For instance, each and every automobile has a VIN—a vehicle identification number. Built on a coded system of letters and digits, the VIN conveys information on the specific vehicle in question. As such, it enables the vehicle to be traded, to be owned, to be maintained, and to be insured. Today, with a VIN, one can quickly pull up the complete history of a vehicle on the Internet. Without the power of the VIN to uniquely identify every automobile ever produced, much of the automotive industry and how we think about cars and car ownership would be far different (i.e., "That's really *my* Hummer!").

As with cars, people must be uniquely identified. This need for unique identification of people has existed throughout history. For instance, in the Middle Kingdom of Ancient Egypt, the Pharaoh Khasekem faced great difficulty in effectively distributing rations among the approximately 100,000 men "on duty" for constructing a pyramid project. Paralleling today's headlines, fraud was a common concern in this food distribution program. As such, Khasekem faced great accounting and inventory management difficulties, in that some workers would attempt to receive a daily food allowance several times. To combat