



Global Business Dialogue on Electronic Commerce

Future of the Internet RFID

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Introduction

RFID (Radio Frequency Identification) technology, a key element in the trend towards convergence and ubiquitous networks, has major implications for the Information Society.

RFID technology has the potential to increase efficiency, transform inventory management and improve product design and marketing. However, the GBDe recognizes that the technology also raises important personal privacy issues in terms of data gathering, monitoring and retention.

Because of the potential impact of RFID for both businesses and consumers, the GBDe is evaluating the possibility of a specific work program to deal with this issue during 2004.

Overview of RFID

RFID is a generic term for technologies that use radio waves to automatically identify individual items. The most common method of identifying an object using RFID is to store a serial number that identifies a product, and perhaps other information, on a microchip attached to an

antenna. The chip and the antenna together are called an RFID tag or RFID transponder. The RFID reader converts the radio waves returned from the RFID tag into a form that can then be transmitted to computers.

The rollout of RFID is seen by some as a prerequisite for the true success of e-commerce. One of the key elements of RFID is its ability to bridge physical and virtual worlds. In order for operational logistics networks to be integrated with e-commerce networks, a direct connection is required between products moving through the supply chain and the product management systems.

For industry, RFID has the potential to allow products to be monitored during their complete life-cycle, from manufacturing through to retail and consumer use.

Consumers will have the opportunity to use RFID to confirm product origin and usage history to provide an additional layer of quality assurance.

Scope of Future Discussion

It is the preliminary view that GBDe should assist in facilitating a multi-stakeholder discussion on the implications of RFID technology. Some key issues which have already been identified include those of personal data protection, interoperability and standardization. The GBDe has noted the following issues, among others, needing to be addressed in any future dialogue regarding the RFID deployment:

a) *Personal Data Protection*

While recognizing the benefits of RFID, business also has to consider fully the implications for personal data protection and security. Citizens have already voiced concerns about the ability of RFID to track them personally, to gather information about their purchasing habits, and to compromise their personal security. Already, there is the understanding the some of these concerns may be alleviated through a balance of enhanced consumer control and regulatory controls.

The GBDe has already developed extensive guidelines for the protection of personal data⁹. It may be possible to incorporate existing guidelines within any recommendations relating to the use of RFID.

b) *System Reliability*

System reliability has been identified as key element for the future deployment of RFID. The most pressing concern is the possibility that data from tags could be compromised or altered by an unauthorized source.

c) *Consumer Education*

A core part of any future dialogue on RFID will be consumer education. Consumers should be provided with accurate information to enable them to participate fully in discussions regarding RFID technology, usage and management and to understand any possible benefits from the use of RFID.

⁹ GBDe Tokyo Recommendations 2001: Personal Data Privacy Protection.

d) *Standardization*

The adoption and coordination of standards for identifying products, communicating with tags, and describing products and their status is vital. Without common, interoperable standards the cost of RFID tags will prevent widespread application.