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Thoughts and ideas from The Systems Consulting Consortium

The RFID Data Tsunami

Don't be misled by the apparently slow adoption of RFID. It is coming to your IT shop, and you need to be prepared. The basics of understanding the impacts that RFID will have on your business operations include:

1. the technological strategies of the players
2. the size of the market, both in cost and in data
3. the risks, both from adoption and from failure to adopt
4. the alternative systems integration strategies.

A successful implementation of RFID will increase managerial control over transactions and logistics while reducing cost. For that to happen, RFID tags and tag readers will have to be improved in the distances over which they can function, their resistance to radio frequency interference, and in lower costs. Chips costing one cent each, which make tags costing five cents each possible, can be produced in order volumes of ten billion tags. This is the threshold at which real efficiencies will become possible. Within five years, chipless tags will be perfected, making one-cent tags possible and opening up a much larger market opportunity. At that point tags will appear on every consumer good and most parts of compound products.

The ten billion tag order threshold is likely to be reached around 2007, about the same time that chipless tags will become available. At that same time, spending on RFID equipment will be equaled by rapidly growing expenditures on systems integration. By 2015, tens of trillions of consumer goods will be tagged each year.

The biggest concerns with RFID are high fixed costs and slow ROI, while standards are still maturing so there is concern about "pre-standard" adoption risks. In addition, businesses need to be alert to the public concern about loss of privacy. The combination of these risk factors is slowing adoption.

But adoption will occur. Tens of billions of ID tags flowing through the economy will produce terabits of data. At first, business applications will not be able to drink from that fire hose. They will filter the data, ignoring normal business patterns and focusing on evidence of exceptions. Then they will look for middleware systems that will allow their existing applications to drink more deeply from the new data stream. And ultimately they will need to either build an RFID database that shares a data model with their other applications, or to build a fully integrated enterprise database that includes the huge and dynamic RFID database. Either approach will be a huge and expensive initiative. A successful implementation of the latter approach will have the potential to provide sector dominance. And an enterprise software provider that can offer that kind of fully integrated approach may easily gain dominance in that sector.

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