

Think Infrastructure

Radio frequency identification is an infrastructure technology, and that's why so many people have failed to grasp its importance—and see where the ROI is.

Aug. 1, 2005—People often have trouble grasping the significance of infrastructure technologies. Take the Internet, for instance. By the early 1990s, it had been around for two decades. Its primary use was to share static information via a new medium called the World Wide Web. The Internet became synonymous with providing static information on Web pages that were viewed with a software application called a Web browser. However, most CEOs failed to grasp its significance initially because they failed to see the Internet as an infrastructure on which many applications could be built.

Today, most business people and consumers alike understand that the Internet can be utilized in myriad ways—downloading iTunes, talking to others using voice over IP, sharing data with suppliers and business partners, and running sophisticated Web applications such as corporate intranets, CRM tools, online meetings and the biggest killer app of them all—e-mail.

RFID is also essentially an infrastructure technology. Instead of efficiently moving small packets of electronic data, RFID allows companies to capture data about objects and people moving about in the real world. Many people, however, are still focused on RFID as the application. They ask how much it will cost and what return on investment they can expect from it. This is analogous to asking what the ROI on the Internet is and how it should be measured. Your network of RFID interrogators, or readers, should be viewed as an infrastructure upon which many applications will be built. The ROI is found in the applications, not the infrastructure.

When you look at RFID this way, the picture appears very different than when you focus on RFID as the application. Think about Metcalf's Law. It states that the value of a network is proportionate to the square of the number of nodes on the network. So every RFID reader brought online increases the value of the network in an exponential fashion. (This law holds true only if the tags and readers are interoperable, which is why standards are so critical.)

One difference between the Internet and RFID is that with the Internet, the hardware and software needed to build out the infrastructure was not directly paid for by Corporate America. Seeing the capital expenditures needed for the reader network and the software to manage it and run the applications can dampen the enthusiasm of even the most visionary CEO. However, the value and number of applications for RFID are potentially greater than those for the Internet. In fact, RFID is just one more piece of a company's overall IT infrastructure. Computers allow us to synthesize large amounts of data. The Internet allows us to share that data. Now RFID allows us to collect volumes of accurate and timely data with little or no human effort.

It may be the very vastness of the RFID infrastructure's potential uses that is causing people to fail to see its importance. RFID can be used to help optimize supply chains, boost efficiency and reduce defects in manufacturing, improve security, cut down on counterfeiting, increase asset utilization and enhance inventory control.

Many companies want to relegate RFID projects to the IT department. That's probably because most IT departments are pretty good at deploying and managing a network infrastructure. But an infrastructure with no applications means there's a lot of I and no R in the ROI calculation. If the business users from manufacturing, sales, marketing, quality control, logistics and operations are brought in to identify the applications, the list of potential uses grows quickly (remember Metcalf's Law).

Putting a business unit, such as supply chain management, in charge of an RFID project also leads to problems. Business managers know little about the nature or complexity of installing and maintaining large networks. We've seen cases where the business units and IT departments battle over which one should own the project. And while the turf war was being waged, RFID mandates from large companies loomed. Money was thrown at projects that failed because no one really had ownership, which led some people involved to conclude the technology is "just not ready."

Actually, the technology is ready, and many companies have successfully deployed an RFID infrastructure and used it for a wide variety of applications.

So what's a company to do? My firm's experience has shown that the business units must drive the applications—and yes, selling to Wal-Mart is a business need. Then, let IT build and maintain the infrastructure required to support applications. This is a team effort, and companies that leverage the ingenuity and creativity of their collective organizations to identify the applications and build the infrastructure will be rewarded with a return on investment. Don't relegate RFID to one department. RFID is infrastructure, and it belongs to—and must be leveraged by—the entire enterprise.

Toby Rush is president of Rush Tracking Systems, a Kansas City-area RFID systems integrator for such implementations as asset tracking, vendor managed inventory, supply chain optimization and EPC compliance. Rush is also a founding member of the RFID Alliance Lab.

Copyright ©2005 RFID Journal, Inc. All Rights Reserved