Simplify System Integration with RFID Anywhere

A whitepaper from iAnywhere Solutions, Inc., a subsidiary of Sybase, Inc.

Contents

Introduction

The RFID industry has both well established and emerging standards for tags, readers, and the air interface protocols between them. Organizations such as EPCglobal and the International Organization for Standardization (ISO) continue to develop new specifications. In addition, hardware vendors often implement these standards in varying ways, and often with proprietary interfaces.

Over time, businesses will inevitably end up with a heterogeneous installation of readers and tags in a single network. From one RFID implementation to the next, the differences may be even greater as new uses for the RFID network are developed. In general, RFID presents system integrators with several problems:

- Technology used today will likely be updated with the standards of tomorrow
- Incumbent technologies like barcode scanners often need to be incorporated into the solution
- RFID networks will grow to incorporate a heterogeneous mixture of distributed hardware
- To drive value and achieve acceptable ROI, RFID data must be integrated with back-end enterprise systems and made available for use

Developing applications to work in this evolving environment is difficult. Developers find themselves distracted from core business application logic by the intricacies of the RFID integration effort. To help overcome this problem, RFID Anywhere's innovative solution tackles standards, hardware controllers, and enterprise systems so that integrators can focus on the business they know best.

Benefit from a simple hardware interface

RFID Anywhere shields system integrators from the details of low-level protocols, standards, and proprietary hardware interfaces, providing instead a single API for a wide range of hardware. New hardware connectors can be developed by iAnywhere and deployed without requiring a new release of RFID Anywhere. This allows developers to focus on creating business logic and adding application-specific value.

Manage heterogeneous readers and tags

In a multi-protocol environment, RFID Anywhere transforms data into a common usable format, helping to simplify management and avoid special-case coding. Whether the system involves one type of hardware or twenty is insignificant to a developer that has integrated RFID Anywhere within their RFID network. In the end, it keeps enterprises from becoming "boxed in", and lets the best technology and standards be selected for each particular application.

Give meaningful names to hardware

With RFID Anywhere, an application can refer to an entity such as “ReadersAtDoorA” without knowledge of the specific details of that reader group. In fact, a name can abstract readers whether they are physical devices or simulated through the RFID Anywhere software; further, the two can be swapped without writing any code. In this way, RFID Anywhere’s hardware abstraction helps to avoid time-consuming application maintenance after each minor hardware change. For an RFID Anywhere developer, a reader is a reader—whether it is simulated, physical, EPC, or ISO makes no difference.

Be ready for tomorrow’s standards

Even the most carefully planned RFID deployments are subject to the changing winds of the industry. Managers need reassurance that their RFID system will be upgradeable and adaptable—in other words, future-proof. RFID Anywhere is exactly that.

RFID Anywhere not only supports current standards from EPCglobal and ISO, but also provides for custom protocols and proprietary devices. In addition, its flexible connector architecture allows it to support future devices and standards without requiring changes to applications or the core engine.

Integrate with enterprise systems easily

Communicating with existing back-end systems is crucial to RFID integration. RFID Anywhere makes it easy for system integrators by providing a variety of enterprise integration points including JMS, MSMQ, SMTP, SOAP, UDP, TCP, and file creation. Each transport type is configurable through connectors in the Administrator Console. When business logic compiles processed information, this output is delivered by the appropriate messaging connector, saving the developer or integrator from worrying about the low-level details of the underlying transport mechanism. For a truly complete solution, other data collection, monitoring, and control technologies can also be incorporated.

Summary and conclusion

RFID system integration can be a potentially difficult and tedious task. Developers must face the realities of emerging standards, vendor specific interfaces, and integration with existing infrastructure. RFID Anywhere saves system integrators from writing drivers, hard coding for special-cases, and continually updating applications with its hardware abstraction layer, broad support for both current and future standards, and complete selection of enterprise connectors.

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