

IBM WebSphere RFID Premises Server



Deploy a robust, scalable base for implementing RFID-enabled solutions

Capturing and using Radio Frequency Identification (RFID) data from the edge of the business environment can enable businesses to streamline processes, deliver new capabilities and enable transformation. For example, an organization might more quickly or accurately make use of information about exactly which items are delivered at a dock door or which unique parts and components are used in an assembly process. Companies in many industries see value in the use of RFID technologies.

One of the challenges in implementing RFID technologies is reading the RFID tags quickly and accurately. You must capture the data fast enough that you can keep up with your inventory and manufacturing processes. Additionally, you need an efficient way to share that data with other business services and information sources throughout your enterprise, so that you can enjoy the full benefits of RFID: improved data accuracy, faster supply chain execution,

Highlights

- Support business process transformation by enabling sensor and RFID solutions in SOA and traditional environments
- Enable RFID data capture, filtering, correlation and delivery using an open architecture that supports multiple RFID device types
- Create RFID processes that integrate with other business processes
- Take advantage of proven best practices to optimize deployment and RFID solution capabilities
- Flexibly facilitate central or remote deployments with IBM WebSphere MQ messaging and distributed process support

improved inventory information and more efficient asset management.

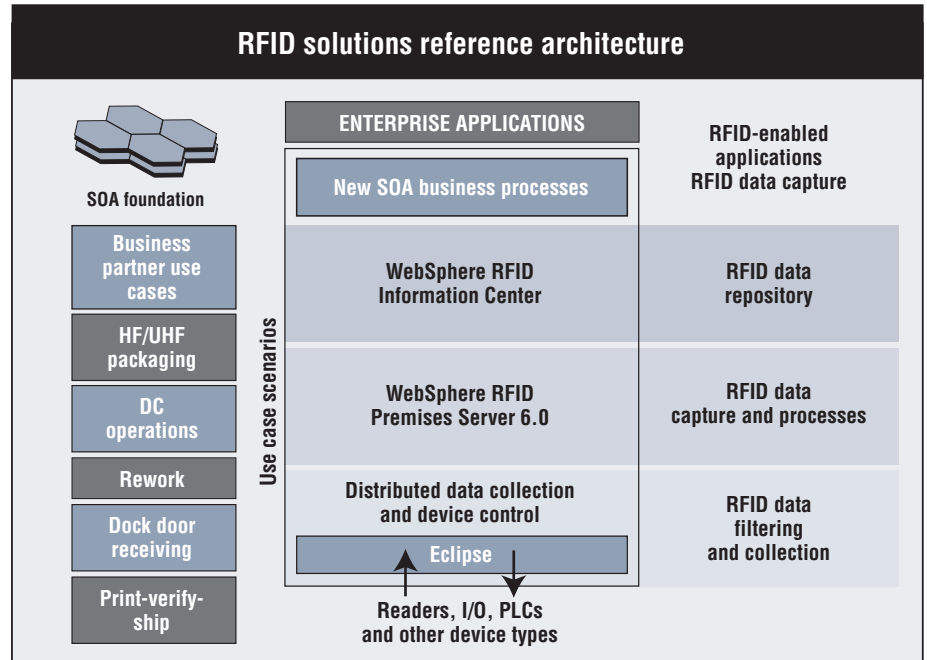
IBM WebSphere® RFID Premises Server provides the middleware you need to:

- Collect and deliver RFID data.
- Develop and execute business events that use the data.
- Integrate the information with other enterprise applications.

An enabler of IBM service oriented architecture (SOA) industry solutions that also works well in traditional environments, WebSphere RFID Premises Server enables RFID solutions that leverage existing infrastructures and integrate with diverse line-of-business applications. WebSphere RFID Premises Server provides a scalable, reliable platform for implementing new business innovations.

Extend SOA infrastructure and process flows into RFID implementations

By helping you combine IBM SOA security, scalability and extensibility with robust RFID filtering, correlation and data-management technologies, WebSphere RFID Premises Server provides the middleware infrastructure needed to deploy RFID solutions in a range of industries. WebSphere RFID Premises Server packaging options are



WebSphere RFID Premises Server provides the core infrastructure for IBM RFID solutions. Acting as a J2EE™ platform for distributed data collection and control, WebSphere RFID Premises Server enables filtering and correlation of RFID events. Reference implementations for key use cases help speed deployments. A range of readers and other sensor devices can be enabled using Eclipse community open software.

available to support entry-level pilots. Additionally, the technology base allows the software to scale to support enterprise deployments.

Capture and deliver RFID data using open standards

Because your RFID solution may need to support many different reader devices — today or in the future — the RFID data capture and delivery services in WebSphere RFID Premises Server exploit the Eclipse Equinox

OSGi framework. This OSGi framework enables your organization to program and manage sophisticated RFID data collection and filtering in a centralized fashion.

Additionally, the WebSphere RFID Premises Server data capture and delivery services can be downloaded to RFID controllers, intelligent readers or both. As a result, you can enjoy unparalleled flexibility when you configure your RFID data capture and delivery infrastructure.

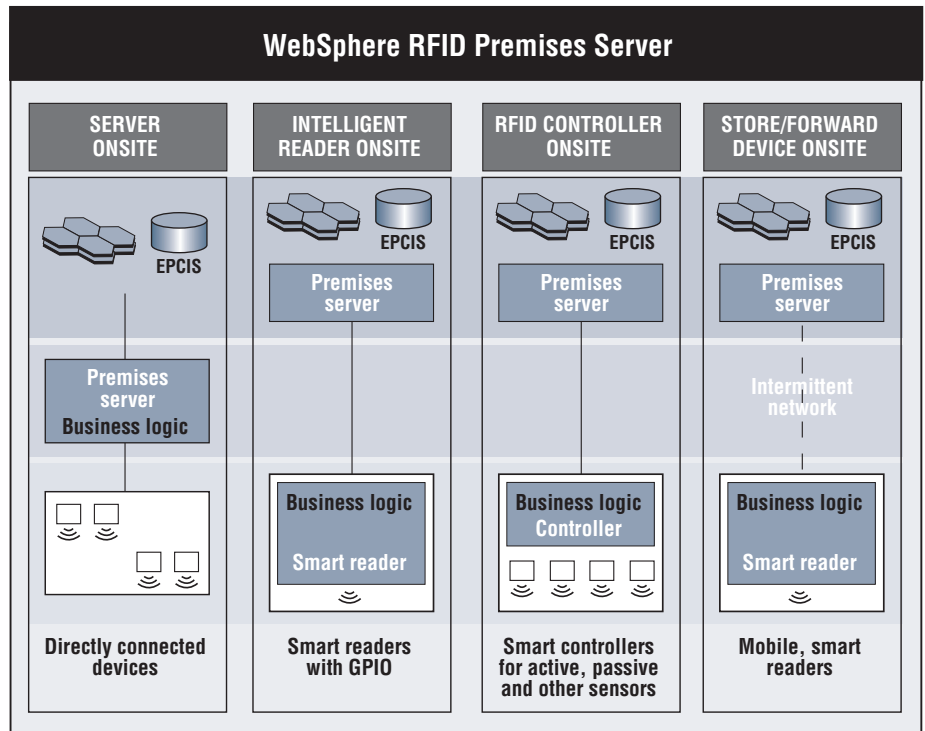
The RFID functions of WebSphere RFID Premises Server also include:

- EPCglobal standards-compliant filtering and correlation, including Application Level Events (ALE) processing.
- Assured delivery of RFID transactions from multiple reader platforms.
- The capability to correlate RFID and sensor data.

Develop your own device support as needed

To help device manufactures ensure that their data capture devices can deliver data to WebSphere RFID Premises Server, IBM created the WebSphere RFID device validation program. Through the program, equipment manufacturers obtain the documentation, software and test capabilities they need to build adapters. Manufacturers of intelligent RFID readers or device controllers can even enable their devices to run WebSphere RFID Premises Server data capture and delivery services remotely.

The program enables device vendors to use an open standards-based device model to add support for features that are unique to their devices. Through the IBM commitment to open environments, enterprises have the flexibility to deploy a wide number of device types.



WebSphere RFID Premises Server can support multiple deployment options for a range of reader connectivity options, server locations and network functions. The server can be deployed locally or at a central IT location. Readers may be directly connected or linked with a controller. Secure messaging ensures data integrity even in intermittent network conditions.

More information about the WebSphere RFID device validation program can be found on the IBM PartnerWorld® Web site.

Integrate RFID data with other business processes

Once you have captured RFID data from all the devices in your enterprise, it is critical to be able to get value out of that information. WebSphere RFID Premises Server helps you

integrate RFID data with other business processes. It includes capabilities from other WebSphere, IBM DB2® and IBM Tivoli® products that help you provide the following:

- A scalable, secure business application server that includes data persistence
- Reliable messaging
- Remote systems management capabilities

Systems management capabilities in WebSphere RFID Premises Server include management, monitoring,

system management event handling and control functions that can remotely install, manage and monitor hardware, middleware and applications at hundreds of locations.

WebSphere RFID Premises Server can also work with the WebSphere MQ workflow tooling that you use for other business processes. As a result, you can integrate RFID data into related business processes. For example, you might integrate RFID data into an existing database, upgrade inventory information and/or order additional stock based on RFID data and so on. Data can be integrated to local and enterprise applications as well as provided to an EPC Information Service (EPCIS) server.

Leverage best practices captured in RFID use cases

WebSphere RFID Premises Server includes several reference implementations of use cases that have been developed based on the best practices of multiple client engagements. You can leverage these use cases to help speed deployment and optimize the capabilities of your RFID solution. The reference implementations can also be quickly customized to meet your individual project requirements.

Use cases offered with WebSphere RFID Premises Server include the following:

- Dock door receiving, which supports pallet- and case-level tagging of goods being received
- Print-verify-ship, which provides processes for pallet- and case-level tagging of goods being shipped, including the confirmation of tag reads before shipment

IBM can also provide reference use cases for item-level tagging and work-in-process manufacturing via services delivery. IBM Business Partners offer additional use cases, including enhanced print-verify-ship, promotions management, out-of-stock, fresh item management and reusable container tracking.

Integrate with additional RFID solutions from IBM

As part of a broader range of IBM software designed to support RFID deployments, WebSphere RFID Premises Server helps you address a broad range of RFID requirements. For example, WebSphere RFID Premises Server integrates with IBM WebSphere RFID Information Center, which provides a scalable, secure, EPCglobal standards-based repository for sensor information in each node of a supply chain.

Additional software components included with WebSphere RFID Premises Server (for use with this product only; full use requires a separate license):

- IBM WebSphere Application Server Network Deployment
- IBM DB2 Universal Database™ Workgroup Server
- IBM WebSphere MQ
- IBM Tivoli Management Agent
- IBM Tivoli Configuration Manager
- IBM Tivoli Enterprise Console®
- IBM Tivoli Monitoring
- IBM Tivoli Monitoring for Databases
- IBM Tivoli OMEGAMON® XE for Messaging
- IBM Tivoli Composite Application Manager Basic for WebSphere

For detailed information about the versions of these components included with WebSphere RFID Premises Server and other technical details, please visit ibm.com/software/integration/ws_rfid_premises_server/

With WebSphere RFID Information Center, high volumes of sensor data can be managed and shared securely with trading partners. WebSphere RFID Information Center also supports use cases for shipment verification, product authentication, inventory reduction and ePedigree.

Take advantage of flexible deployment topologies

Because RFID technology is relatively new and because different companies have different IT standards, the IBM RFID architecture supports multiple deployment topologies. You can choose whether to:

- Manage the IT infrastructure from the enterprise or the remote location.
- Locate the WebSphere RFID Premises Server at the store, manufacturing site or other remote location to provide local processing.
- Support directly connecting devices (or devices connected via controllers) and intermittent network connections.
- Connect to “smart” readers and controllers that execute filtering and correlation locally to reduce network traffic and workload at the enterprise — as well as readers that lack these capabilities.

Furthermore, WebSphere RFID Premises Server gives you the flexibility to adopt different architectures over time to support your changing requirements.

Support high throughput

WebSphere RFID Premises Server provides a high-performance environment for distributed data collection, processing and control. To support high-throughput tag rates, both the distributed data-capture-and-delivery component and the server-based processing environment efficiently handle the business transactions that occur as data-driven events are generated and processed.

Additionally, WebSphere RFID Premises Server customers with high-volume requirements can take advantage of scaling benefits through operation in clustered environments.

Summary

RFID technology is rapidly evolving, enabling organizations to develop new solution capabilities that deliver business value to their enterprises. Enterprise implementations of RFID emphasize the need to:

- Leverage SOA to enable flexible business process innovation.
- Share RFID events strategically with selected trading partners.
- Use open standards across the end-to-end solution.
- Rely on a dynamic partner ecosystem of independent software vendors, device makers and standards organizations, which can provide the domain expertise and differentiating capabilities to meet specific solution requirements.

WebSphere RFID Premises Server provides the middleware to support a pilot as well as enable an enterprise RFID deployment. Built on proven IBM technology, WebSphere RFID Premises Server provides the RFID functions needed to capture sensor data and integrate it with the rest of your business — enabling business process transformation and innovation.

For more information

To learn more about how WebSphere RFID Premises Server can help your organization implement RFID-enabled solutions — or to learn about the broader range of IBM sensors and actuators solutions — contact your IBM representative or IBM Business Partner, or visit ibm.com/solutions/sensors



WebSphere RFID Premises Server at a glance

Minimum hardware configuration:

- 3GHz Intel® Pentium® 4 processor
- 2GB processor RAM
- 8GB free disk space
- 500MB temporary disk space (used during installation)

Supported server operating systems:

- Microsoft® Windows®
- SUSE Linux®

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