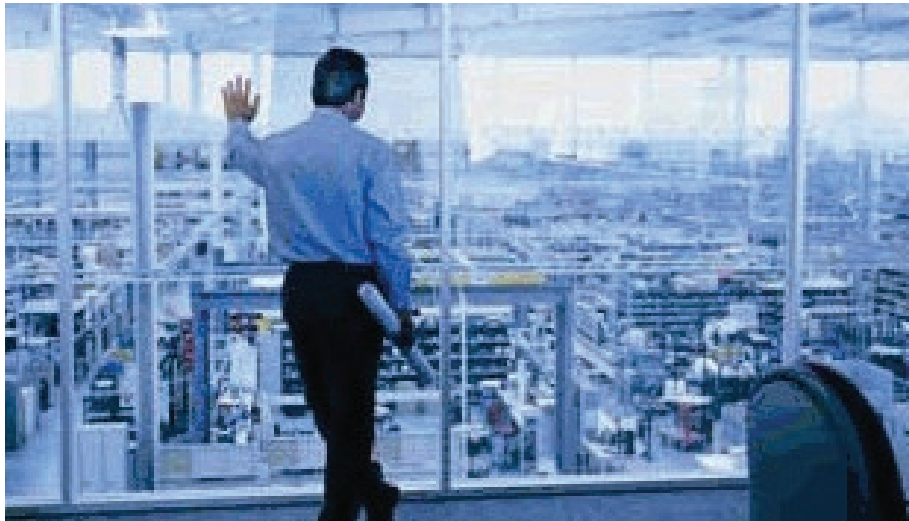


IBM WebSphere Premises Server



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

Sensor-based solutions such as radio frequency identification (RFID) continue to unlock new business value as innovative companies evolve their understanding of how to leverage these new sensing technologies, learn how to efficiently deploy them and get a better view of how to leverage their capabilities. The innovators that have led the way in adopting sensor solutions are now moving beyond the “does it work stage” to “what does this mean for my business?” — assessing the impact on specific business processes, such as inventory management, work in process manufacturing and retail experience across a wide range of operations.

There are many new opportunities to use the information now available from an infrastructure of networked sensors, including passive RFID for object identification, active RFID for location information, as well as many other sensor types for condition information such as temperature, vibration, humidity, or other important status or environmental factors. This newly available information can illuminate

Highlights

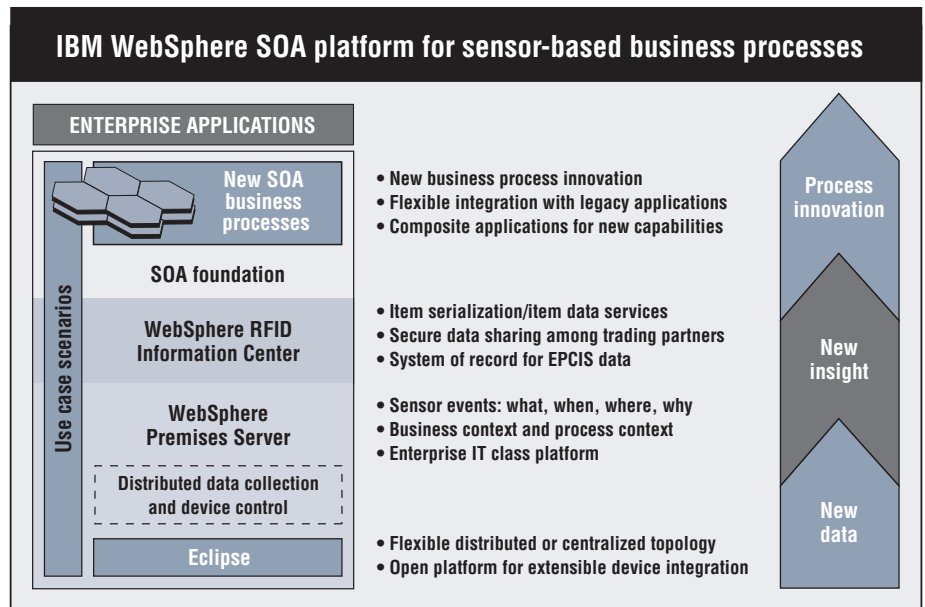
- Derive actionable insights that support business processes in SOA and legacy environments by aggregating and analyzing a broad range of sensor data from technologies such as RFID
- Enable business transformation opportunities by creating responsive process enhancements and decision making based on visibility and insights from new sensor data
- Extend process flexibility and control with intelligent business rules that manage complex event processing to identify relevant, actionable situations
- Enable real-time location tracking services for active RFID devices, with a single platform to integrate and support multiple sensor types
- Take advantage of proven best practices to optimize deployment and management of end-to-end sensor solutions
- Ensure enterprise IT class reliability and distributed process support with assured WebSphere MQ message delivery facilitating central or remote server deployments

previously dark areas of business execution, enabling companies to react to real-world events that impact their operations and business results.

IBM WebSphere® Premises Server is a sensor-enabled product that allows you to aggregate and analyze sensor data, identify insights from that data and integrate those insights with the business processes implemented in a service oriented architecture (SOA) environment. The software enables you to extend process flexibility and control via intelligent business rules that manage complex event identification and processing.

You can use WebSphere Premises Server to gain actionable information to support a full range of business processes and make a recognizable impact on areas such as asset management, asset tracking and working capital. Unique in its single-platform support for multiple sensor technologies, including active and passive RFID and condition monitoring devices, this market-leading platform provides the middleware you need to:

- Collect, aggregate and integrate sensor data.
- Develop and execute business rules that analyze sensor data and derive business insights.
- Integrate information and act upon insights together with other enterprise applications.



WebSphere software provides the proven, scalable, enterprise IT-class platform for implementing process innovation through visibility provided by sensor data. WebSphere Premises Server enables identification of events in both operational and business context so only intelligent insights are integrated with the EPCIS repository and acted upon by the business processes running in the WebSphere SOA environment, for integration with legacy applications and new business processes.

An enabler of IBM SOA industry solutions that also works well in traditional environments, WebSphere Premises Server delivers the ability to create and manage sensor solutions that leverage existing infrastructures and integrate with diverse line-of-business applications. The software provides a scalable, reliable platform for implementing new business innovations.

Extend SOA with responsive integration of sensor solution implementations

You can easily integrate IBM SOA flexibility, scalability and extensibility with the robust sensor data filtering,

correlation and data management technologies of WebSphere Premises Server to provide the middleware infrastructure needed to deploy sensor solutions in a range of industries. WebSphere Premises Server packaging options are available to support entry-level pilots as well as scalable, high-performance and enterprise IT-class deployments.

Leverage real-time location tracking

Location awareness services for WebSphere Premises Server expand data capture and delivery capabilities to support active RFID technologies,

allowing continuous tracking of real-time events in predefined areas such as refineries, plants and office buildings. A visual console displays locations being monitored with current asset positioning.

Capture and deliver sensor data using open standards

Because your sensor solution must support many different types of devices — today and in the future — the data capture and delivery services in WebSphere Premises Server exploit the Eclipse Equinox OSGi framework, providing an extensible, open platform for device integration. This framework enables the customization and management of sophisticated sensor data collection and filtering in a centralized fashion. Additionally, WebSphere Premises Server data capture and delivery services can be downloaded to device controllers, intelligent readers or both. As a result, you can enjoy unparalleled deployment flexibility when you configure your data capture and delivery infrastructure.

The services of WebSphere Premises Server also include:

- EPCglobal standards-compliant filtering and correlation, including application level events (ALE) processing and EPC Information Services integration.

- Assured delivery of sensor transactions from multiple reader platforms.
- The capability to correlate RFID and sensor data.
- The ability to reduce network traffic and enhance scalability.
- Integration of remote firmware and software for distributed management.
- A single platform that supports multiple sensor types via a broad range of device services supporting multiple active-tag device services.

Integrate sensor data with business processes

In order to capture business value from the sensor data in your enterprise, it is critical to derive the relevant events from that data that are actionable, such as intelligent insights that enable process innovation. Understanding how to more effectively and efficiently execute requires a process-based approach, extending legacy applications in new ways, without the need to rewrite those applications.

Process integration establishes the business context for events, and process services provide the capabilities for new approaches in acting on these events, initiating the desired activity in response to specific situations. WebSphere Premises Server and its additional software components — including capabilities from other WebSphere, IBM DB2® and IBM Tivoli® products — provide a scalable, secure SOA business

application server for implementing process innovation that matters for your business.

Systems management capabilities in WebSphere 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 Premises Server can also work with IBM WebSphere MQ workflow tooling for integration into legacy applications. For example, you might integrate sensor data into an existing database, upgrade inventory information and order additional stock based on sensor data.

Leverage best practices captured in use cases

WebSphere 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 sensor solution. The reference implementations can also be quickly customized to meet your individual project requirements.

Use cases offered with WebSphere Premises Server include:

- 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.
- Item-level tagging and work-in-process manufacturing via services delivery.
- Additional use cases through IBM Business Partners, including enhanced print-verify-ship, promotions management, out of stock, fresh item management and reusable container tracking.

Integrate with IBM WebSphere RFID Information Center

To expand the integration of your sensor information, WebSphere Premises Server helps you address a broad range of information management requirements by tightly integrating with IBM WebSphere RFID Information Center, which provides a scalable, secure, EPCglobal Standards-based repository for sensor information.

WebSphere RFID Information Center offers a single repository where high volumes of sensor data can be managed, accessed by enterprise applications and shared securely with

trading partners. This collaborative data sharing enables:

- Visibility across the extended enterprise of customers and suppliers.
- Trend analysis of process executions.
- Traceability of products and assets.
- Enhanced shipment verification, product authentication, inventory reduction and ePedigree use cases.

Through integration with WebSphere RFID Information Center, WebSphere Premises Server delivers a platform in which you can combine data and events from networked sensor technology from central or distributed sites to deliver immediate business value.

Use it to:

- Support the supply chain and inventory management via end-to-end visibility.
- Track individual assets.
- Remotely collect sensor data on state, condition and utilization of assets.

Take advantage of flexible deployment topologies

The differences in companies' networking capabilities, IT standards and system architecture drive the need to support flexible deployment topologies. You may choose to centralize or distribute process execution capabilities to meet your

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

- IBM WebSphere Application Server Network Deployment
- IBM DB2 Enterprise Server Edition
- IBM WebSphere MQ
- IBM Tivoli Provisioning Manager
- IBM Tivoli Enterprise Console®
- IBM Tivoli Monitoring
- IBM Tivoli Monitoring for Databases
- IBM Tivoli OMEGAMON® XE for Messaging
- IBM Tivoli Composite Application Manager for WebSphere

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

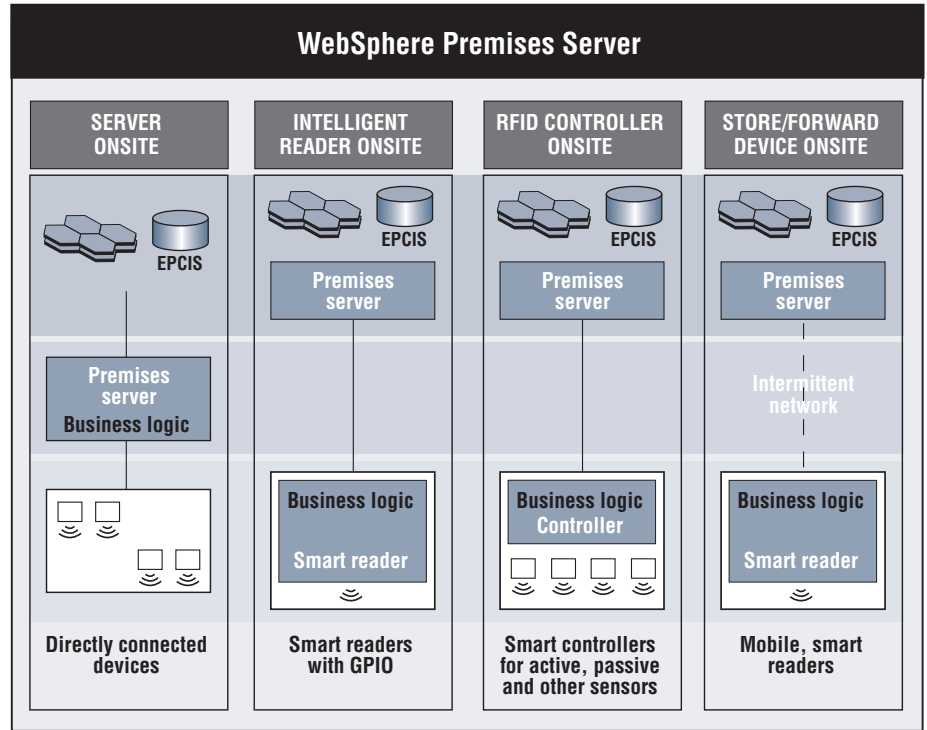
varied requirements. You can choose whether to:

- Locate WebSphere Premises Server at a central site to manage the IT infrastructure from an enterprise data center.
- Locate WebSphere Premises Server at the store, manufacturing site or other remote location to provide local processing without dependence on a wide area network or data center.
- Support directly connecting devices.
- Connect to “smart” readers and device controllers that execute filtering, correlation and time-sensitive application logic locally to reduce network traffic and minimize system latency.

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

Support high-throughput tag rates

WebSphere 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 Premises Server customers with high-volume requirements can take advantage of a clustered environment to increase scalability.



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

Leverage device ecosystem support

To help device manufacturers ensure that their data capture devices can deliver data to WebSphere Premises Server, IBM created the Ready for IBM WebSphere Premises Server technical validation program, a recognized validation program that enables IBM Business Partners to leverage the open device model and flexible architecture. Through the program, equipment manufacturers obtain the documentation, software and test capabilities they

need to build adapters. Manufacturers of intelligent readers or device controllers can even enable their devices to run WebSphere 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



WebSphere Premises Server at a glance

Minimum hardware configuration:

- 3GHz Intel® Pentium® 4 processor
- 3GB processor RAM
- 10GB free disk space
- 1GB temporary disk space (used during installation)

Supported server operating systems:

- Microsoft® Windows®
- SUSE Linux®

of device types. For more information about the Ready for IBM WebSphere Premises Server validation program, visit the IBM PartnerWorld® Web site at ibm.com/partnerworld/isv/go/websphere_premises_server

Deploy a comprehensive, enterprise-class solution

For a comprehensive, enterprise-class solution, you can use WebSphere Premises Server in conjunction with sensor data collection devices, the WebSphere RFID Information Center sensor information repository and IBM WebSphere Process Server to implement new and innovative business processes built on an SOA infrastructure.

Summary

WebSphere Premises Server enables you to integrate and act upon the information from sensor technologies such as

RFID and to identify and implement the innovative solutions that matter to your business. It provides the middleware to support a pilot or enable an enterprise sensor deployment. Built on proven IBM technology, WebSphere Premises Server provides the sensor services 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 Premises Server can help your organization implement sensor-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

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