

The Sun™ RFID Test Center

Helping facilitate RFID compliance, pilots, and deployments for customers by 2005



Key feature highlights

- As a core member of the Auto-ID Org (since early 2000) and now EPCGlobal, Sun's Radio Frequency Identification (RFID) team has been and continues to be deeply engaged in the market, industry, technology, and standards discussions
- Delivers a state-of-the-art testing facility for RFID
- Features Sun software, plus unique RFID software, hardware, and services
- Offers a complete tagging and testing service as part of the customer RFID deployment
- Enables customers to meet the Wal-Mart mandate while mitigating risks and minimizing capital investments
- Lowers the cost to the customer by providing a complete test environment
- Provides an unbiased, methodology-based evaluation of the RFID-related equipment required for a successful implementation

By now, almost everyone understands that Radio Frequency Identification (RFID) has the potential to enable unprecedented efficiencies for enterprises by providing numerous benefits such as better asset tracking, improved inventory management, enhanced safety, and integrity of products and brands throughout the global supply chain. However, with the list of RFID compliance mandates for 2005 growing every month, suppliers affiliated with Wal-Mart, the U.S. Department of Defense (DoD), Target, Albertsons, Metro Stores, HDMA, and others are looking for solutions and partners that can provide immediate answers.

The questions in the minds of RFID end users such as Wal-Mart suppliers are first and foremost:

- How do I comply with the mandates in a manner that is least disruptive to my current operations?
- How do I comply cost-effectively within the required timelines?
- Who should my trusted partners be? And how do I go about making that selection?
- How do I ensure that the investments and choices I make today could potentially be leveraged in a larger deployment tomorrow?

Examples of specific questions include:

- What tags or readers are best-suited to our products and operations?
- What should the optimal tag placement for our products be for a particular mandate?
- How do environmental conditions, product ingredients, and packaging affect tag reads?
- Are there any RF interference issues that we have to be concerned about?

It is in response to precisely these questions from its customers that Sun Microsystems decided to establish the RFID Test Centers.

What is the Sun™ RFID Test Center?

The Sun™ RFID Test Centers are intended to provide practical answers to customer's real-world RFID questions.

Answering these questions requires RFID specific expertise and a suitable environment where experiments and tests can be conducted. The RFID Test Center provides a controlled environment that tries to best simulate physical and RF conditions in an actual distribution center or warehouse as specified by the mandates.

Sun has developed a complete set of offerings, ranging from basic RFID education, RFID physics testing, and a simple pilot with intra-enterprise integration all the way to a large deployment with inter-enterprise data sharing.

For example, the first RFID Test Center located in Carrollton, Texas is a state-of-the-art, 17,000 square foot warehouse facility. This center has a world-class conveyor system that can process cases at variable speeds up to 600 feet per minute (per Wal-Mart requirements), a pallet conveyor for repeatable testing at the pallet level, and RFID EPC-compliant agile readers.

All stations are enabled using EPC-compliant agile readers/antennas. The readers and antennas are provided by Sun partners Alien Technology, Applied Wireless Identification (AWID) Group, Inc., Matrics Inc., and Tyco Sensormatic.

Additionally, the center has Sun Microsystems' hardware and unique RFID software that helps process the information from the tags and readers and enables seamless integration with warehouse management systems and other enterprise systems provided by partners and located at the center.

Sun's Dallas RFID Test Center is one in a series that will be established worldwide to help customers address their global requirements. The next Sun RFID Test Center is being created in Linlithgow, Scotland and will begin helping European customers later this year.

What is the Value of the Sun RFID Test Center?

The Sun RFID Test Centers are about mitigating customer risks and providing solutions to current problems while ensuring compatibility with future needs. By providing a simulated environment for mandate testing, Sun is

ensuring that its customers don't have to spend the money and effort to do this themselves. Instead, they can leverage Sun's facilities, which will be stocked with the state-of-the-art equipment from our various partners. This way, customers can test and verify that their selection works before investing in the equipment in-house.

Additionally, Sun can demonstrate how long-term business benefits can be achieved through the integration of RFID data with back-end systems right at the RFID Test Center. Finally, the collective expertise that Sun and its partners bring to bear at the RFID Test Centers to address customers' problems is unparalleled.

What is the Sun Offering?

Sun has developed a complete set of offerings, ranging from basic RFID education, RFID physics testing, and a simple pilot with intra-enterprise integration all the way to a large deployment with inter-enterprise data sharing. A first step in successfully deploying solutions using RFID technology is the proper tagging and testing of products.

Sun will work with a customer's business to deliver the right tagging and test plans starting with the analysis of their product portfolio and identifying a representative set of products to bring to the Sun RFID Test Center. Sun will analyze and determine the optimal positioning of the tag on the products, and test these tagged products at the case and pallet level using RFID stations placed at the conveyor, portal, and dock doors. The RFID Test Center was developed to test cases and/or pallets of products, from receipt pick to shipment of products. In parallel to the tag and test, Sun will plan the initial RFID pilot in the customer warehouse, distribution, or manufacturing environment.

Sun RFID Tagging/Testing/Initial Pilot

The Sun offering includes analysis and product tagging, testing the tagged products with an entry-level package that includes:

- Two-week tagging study to identify the representative set of products and the customer environment
- Two to three testing periods
- Testing of up to five products (SKUs) and pallet SKUs
- Testing up to five pallets/cases
- Testing with a single tag type
- High-speed conveyor testing of cases
- Pallet testing on pallet test conveyor
- Dock door receive and ship testing
- Portal (forklift) testing
- Reporting results from testing at the case and pallet level, including read accuracy and tag location considerations
- Delivering a tagging plan that includes enabling the customer to properly tag products
- Meeting to review results and recommendations

Sun will do a two-week on-site analysis of the environment, working with the customer, and deliver a well-defined pilot project plan at a customer location. While the tagging and testing is being performed at the RFID Test Center, Sun will work to define the details of the pilot and prepare to deploy it in the customer environment when the tagging and testing is completed. This offering includes:

- Site survey to determine the process (where to tag, where to locate) that works best for the customer business
- Installation of the necessary hardware and software at customer premise
- Pilot execution for a defined period to fully demonstrate the capabilities in the customer environment
- Meeting to review results and recommendations

What's Next?

Once the initial pilot is completed, Sun will work with the customer to define the next phases of deployment, from expansion of the pilot through defining the final production implementation. The final implementation can range from tag and ship to a complete end-to-end architecture for integration into the customer's business applications and the business-to-business processes.

The Next Step

How can you start the RFID journey with Sun? Contact your local Sun representative or contact Sun at rfid-testcenter@sun.com.

Serious Software Made Simple

Sun provides a complete portfolio of affordable, interoperable, and open software systems designed to help you maximize the utilization and efficiency of your IT infrastructure. Built from the secure, highly available foundations of UNIX® and Java™, these systems deliver implementations that are preintegrated and backward compatible. Sun's portfolio consists of Solaris™ and Linux software for SPARC® and x86 platforms, the N1™ Grid platform for dynamic and utility computing, and the Sun Java System — five integrated software systems for the data center, the desktop, the developer, mobile devices, and smart card identity implementations.

The Java System is a radical new approach that changes forever the way businesses acquire, develop, and manage software. Only Sun has the experience and the end-to-end portfolio to deliver such a unique and industry-revolutionizing strategy. With the Java System, network services and critical business applications are up and running faster, easier, and at a lower cost than ever before, so you can focus on innovation, competition, and bottom-line results.

The Sun™ RFID Test Center

About Sun Microsystems, Inc.

Since its inception in 1982, customers have continually turned to Sun to help them grow their business, lower their costs, and gain competitive advantage. Sun is a leading provider of industrial-strength hardware, software, services, and technologies that make the Net work.

For More Information

To learn more about the Sun RFID Test Centers, visit sun.com/rfid.

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