

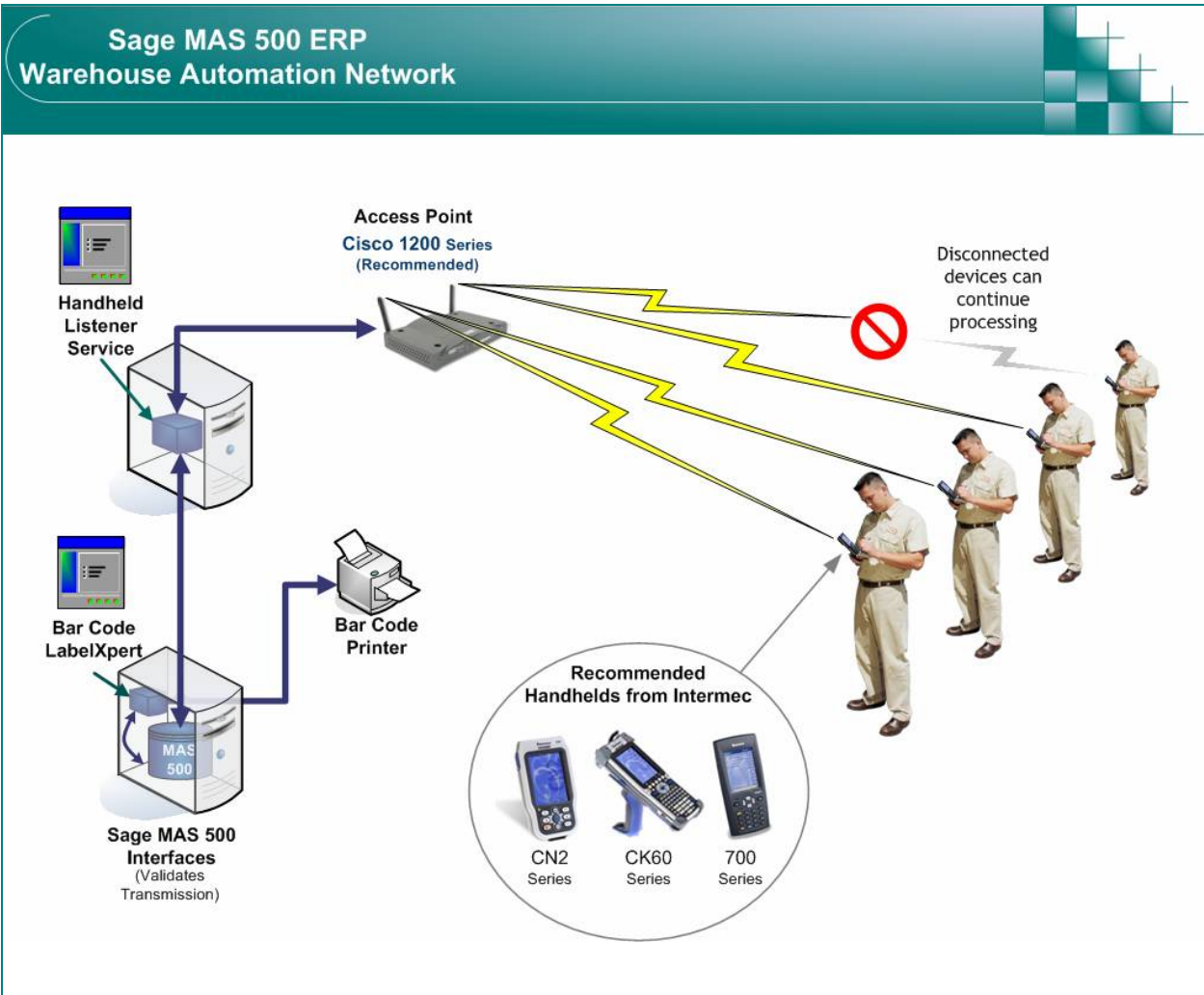
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Overview

The ongoing evolution of computing technology continues to provide new solutions to old problems at a rate that can exceed even the most forward looking technology leaders. One of the most recent technologies that has generated a tremendous amount of excitement is Wi-Fi or Radio Frequency (RF) networking. While coffee shops and major league baseball ballparks are beginning to offer wireless services for consumers, medium-sized businesses are increasingly leveraging the technology to their advantage.

For distribution and manufacturing customers of Sage Software, the low cost of Wi-Fi solutions allows them to consider an advanced infrastructure for their warehouse that previously was not an option. Sage MAS 500 has seized this opportunity with the release of Warehouse Automation. Warehouse Automation will provide Sage MAS 500 customers a wireless solution for warehouse personnel who need to perform tasks such as order picking and cycle counts and instantly feed that back into Sage MAS 500 with proper validation.



Warehouse Automation Functionality

The Warehouse Automation system provides five main areas of functionality. First is the ability to use a hand-held device that allows the user to scan bar codes while performing the various data entry tasks listed in the Handheld Device section below. Second, it provides radio frequency communication to the host system, allowing real time validated updates to occur. Third, a user interface is provided to allow users to reconcile data records that fail validation. Fourth, the ability for handheld users to work offline in the event the Sage MAS 500 Server or RF connection is temporarily lost. Information captured while offline is automatically uploaded when the connection becomes active. Finally, the Warehouse Automation system allows users to print item bar code labels that have been designed using the BarCode LabelXpert Designer.

Warehouse Automation Server Capabilities

- Provides the ability to print standard, pre-defined bar coded labels on either laser or thermal label printers from the PC. Launches barcode *network* printing for unlimited users
- Contains required setup tasks for the handheld devices from the Business Desktop, which conform to Sage MAS 500 security standards
- Provides listener functionality for radio frequency communications
- Provides integration to Sage MAS 500 to handle validation and execution of Sage MAS 500 Inventory, Purchase Order, Sales Order and Warehouse Management transactions
- Provides a user interface for resolution of problems that occur when the data transmitted from the handheld device fails Sage MAS 500 business rules.
- Includes a console application to view and maintain wireless clients connected to the server

Handheld Device

Platform and General Information: The system's handheld software can be used on any Windows Mobile 2003, 2005 or CE.net device with a wireless connection. The handheld software is written in Visual Basic.net and is hardware independent by design so companies can select the hardware that best meets their individualized needs.

Real-time activity is updated within Sage MAS 500 after each single transaction such as a pull from a bin or a bin transfer (e.g., Picks are written to Confirm Picks).

Application Tasks

The handheld device allows the user to perform the following tasks:

Task	Real-time Posting	Batch Posting
Receive Goods	√*	√
Warehouse Transfers	√	
Bin Transfers	√	
Sales Returns	√	
Cycle Counts		√
Physical Counts		√
Picking (Directed, Wave, or By Order)	√	
Packing	√	
Shipping	√	

*To receive goods, users can optionally use batch posting or simulated real-time posting, depending on the needs of their business. To perform real-time posting, the handheld user receives a group of transactions, then clicks the update button at the bottom of the handheld. This takes all of the transactions in the current entry group, prints and saves an electric copy of the receipts register, and updates the register instantly to update the quantities on hand of the received items.



When a PO Receipt is completed on the handheld, the user can optionally be prompted to print bar coded labels for that item to a desktop or portable RF belt printer.

The handheld device has the ability to perform picking of one or several orders in one fluid process. When the order selected for picking comes up on the handheld, the system displays all items that are to be picked one at a time and directs the picker to the appropriate bin for each item. When the picking process is complete, shipments are generated. Packing can then be performed by the packing staff in the warehouse using the Packing task on the handheld. At that time all scanned items will be assumed to go into box 2, until the next box indicator is selected, with the process continuing until all items have been picked and placed in boxes. The ability to divide the contents of one shipping line into two or more packages is also provided (e.g., 10 widgets ordered as one line item on a sales order, 5 go in box 1, 5 in box 2.)

The information about the shipped boxes flows directly to Sage MAS 500 and can be viewed from the Edit Shipments task. Users accessing Edit Shipments from the desktop can view these transactions and send the appropriate shipments to StarShip if desired.

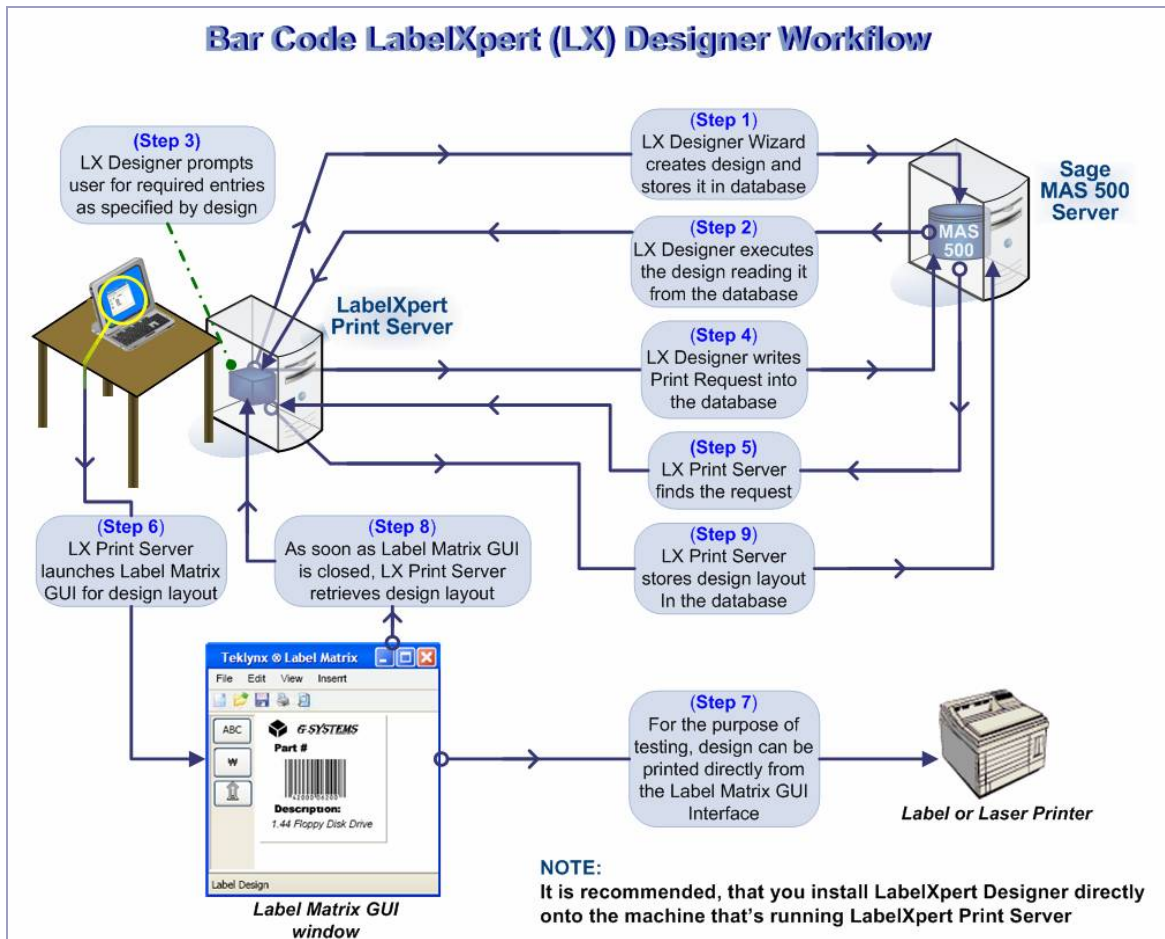
Bar Code LabelXpert Designer Functionality

Warehouse Automation comes with three label formats that can be printed for use with WA. The LabelXpert Designer (LX) module allows those templates to be customized in addition to providing the ability to create entirely new label templates. LabelXpert Designer allows users to customize labels for every purpose; item tags, shelf tags, bin tags, carton tags and more.

LX supports both laser and thermal label printers. The printing of RFID (Radio Frequency Identification) barcode labels will be supported on several printers to accommodate this new technology requirement that some large retailers and other organizations are imposing on their suppliers. This will support the "Slap and Ship" compliance currently being introduced in a tiered format, initially to large suppliers and later to smaller suppliers. If you are currently being asked to provide RFID tags on products you ship, please contact your Sage channel partner for details on how to comply with this requirement.

Although it will most frequently be installed in conjunction with the Warehouse Automation module, the Bar Code LabelXpert Designer can be purchased and installed without Warehouse Automation. Companies that need to design bar code labels to meet packaging requirements of their customers but do not want to automate their own warehouses will find this to be a simple, economical way to fulfill some basic bar-coding requirements. If purchased without Warehouse Automation, the basic LX module provides printing of labels from a single workstation, and additional workstation printing capabilities can be purchased if necessary. When the LabelXpert Designer is purchased along with the Warehouse Automation module, bar-code label printing can be performed from all Sage MAS 500 workstations or WA handhelds at no additional charge.

The flow chart below shows how the Bar Code LabelXpert Designer works with Sage MAS 500 to create custom labels for use anywhere a label containing item information is required.



Platform Requirements

Client Handheld

- **Operation System:** CE.NET or Windows Mobile 2003, 2005
- **Production Hardware:** Industrial grade handheld to host operation system. These devices should be rugged enough to survive several five foot drops. Recommended handheld devices are:

<p>Intermec CN2 Series - The Intermec CN2A and CN2B handhelds are small enough to fit in a shirt pocket yet provide a rugged and reliable mobile data collection terminal for your tough handheld computing applications. The CN2 offers features and functionality commonly found in terminals much larger and more costly. With the ergonomic design, the CN2 allows for single-handheld operation and the pocket sized form factor making it possible to carry almost anywhere data collection is required.</p> <p style="text-align: right;">Approximate List Price: \$ 1,600</p>	
<p>Intermec 700 Series – Designed from the ground up for use in harsh environments, the 700 Series devices can withstand multiple 5 foot (1.5 m) drops to concrete and are sealed against rain and dust. The ergonomic case design is sculpted and balanced, maximizing user comfort during long-term use. Radio and scanner options are integrated, not add-ons, which means they are tested to the same ruggedness standards, and don't compromise the environmental or functional characteristics of the unit.</p> <p style="text-align: right;">Approximate List Price: \$ 2,500</p>	
<p>Intermec CK60 Series – Designed for fast input and retrieval, the Intermec CK60 Series provides a QVGA touch screen display, enabling it to run graphical interfaces and a large, easy -to-use keypad that allows one and two-handed input of large amounts of data. The CK60 Series is ideal for especially harsh warehouse environments with a magnesium top cover, rubber bumpers on the corners to cushion against drops, and a case that is sealed against water and dust to IP64 standards.</p> <p style="text-align: right;">Approximate List Price: \$ 2,900</p>	

- **Demonstration Hardware for Sage Partners:** Consumer grade (e.g. HP iPAQ) Pocket PC may be used for demonstration purposes but are not recommended in a production environment.

Barcode LabelXpert Designer Workstation

- **Operation System:** Standard Sage MAS 500 Minimum client OS configuration
- **Hardware:** Standard Sage MAS 500 Minimum client hardware configuration

Access Points

- **Minimum of 802.11b connectivity**
- **Industrial grade cards and Wi-Fi base stations (Access Points).** Access Points are the receiving units that transfer the signal from the handhelds into the server that communicates with Sage MAS 500. The quantity of access points and their configuration will be determined by a site survey (see section on *Getting Started*)
- **Access Point Recommendation**
 - The Cisco Aironet 1200 Series
 - Delivers high capacity, security, and enterprise-class features required in more challenging RF environments
 - It is designed for wireless LANs in rugged environments or installations that require specialized antennas, and features dual antenna connectors for extended range, coverage versatility, and more flexible installation options.
 - Begins at **\$899**



Warehouse Automation “Listener” Service

It is recommended that a separate application server is configured for the Warehouse Automation listener service. The listener service is used to communicate with the Wi-Fi handheld devices.

- **Operation System:** Standard Sage MAS 500 client or server OS configuration
- **Hardware:** Standard Sage MAS 500 client or server hardware configuration

Software Pricing

Application	SLP	Includes	License Type Notes
Warehouse Automation Server	\$12,000	RF Listener Service	Per Sage MAS 500 Server
		Network Bar Code Printing	
		Sample Bar Code Labels	
		RF Software for Handheld	
Handheld Device Software	\$1,000	RF Software for WA	Per Handheld Device
		BarCode Printing from Handheld	
BarCode LabelXpert Designer	\$3,000	BarCode Design and Printing	Per Workstation
BarCode LabelXpert Additional Print Workstations	\$1,000	BarCode Printing	Per Workstation (only if WA is NOT purchased)

Customer Pricing Example # 1- Warehouse Automation with LabelXpert Designer

Warehouse Automation Module	\$12,000
3 handheld user licenses	3,000 (3 @ \$1000 each)
Bar Code LabelXpert Designer Module	3,000
Bar Code Label printing from unlimited workstations	<u>included</u>
Total	\$18,000

Customer Pricing Example #2 – Bar Code LabelXpert Designer as Stand-alone System

Bar Code LabelXpert Designer Module (single user)	\$3,000
Print custom designed labels from 2 additional wkstns	<u>2,000</u> (2 @ \$1000 each)
Total	\$5,000

