

The logo graphic consists of several overlapping, light blue circular and elliptical shapes that create a sense of motion or a network. The word "Intermec" is written vertically in a bold, dark blue sans-serif font, positioned to the right of these shapes.

Intermec

White
Paper

**SIMPLIFYING NETWORK PRINTING WHILE REDUCING
CAPITAL AND MAINTENANCE COSTS**

Intermec

INTRODUCTION

In today's fast-paced, globally-connected business world, companies are using the power and flexibility of Web-based systems to manage aspects of their business once limited by geographic location and proprietary processes. As widespread interoperability and open standards have changed the face of the industry, bar code label printing has evolved from discrete, PC-based installations to fully networked systems utilizing Web technologies.

Intermec Technologies Corporation, an industry leader in network printing, provides an integrated solution that not only simplifies maintenance, but increases the reliability and performance of bar code printing.

INTERMEC SOLUTION COMPONENTS

EasyLAN™ 100i Network Interface Card

Provides direct, high-speed connectivity between most EasyCoder® printers and the network, enabling users to quickly print labels. The bi-directional communication and multi-channel interface allow error messages, print requests and status queries to be performed simultaneously.

Intermec Printer Application Server™

Allows users to interact with the host system database via the printer directly, eliminating the need for PCs and terminals on each printer.

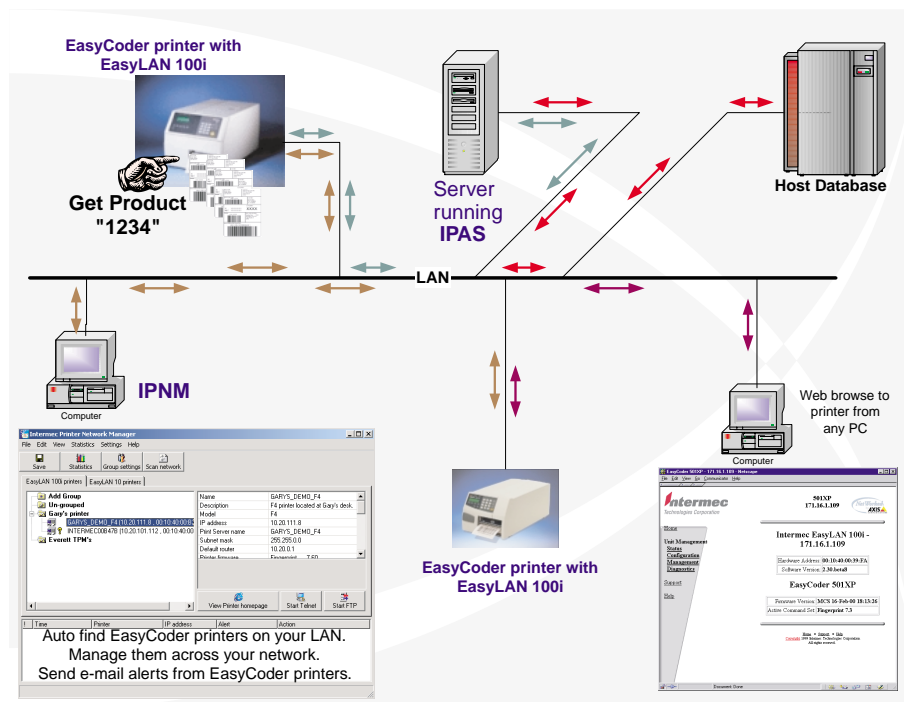
Intermec Printer Network Manager™

EasyCoder printers can be set up and managed remotely. System administrators can group printers and set up the network parameters without having to physically touch the printer. IPNM also provides email and pager notification of printer errors, enabling maintenance personnel to respond quickly.

Fingerprint™ programming language

An Intermec BASIC™ programming language that allows users to customize and extend the capabilities of EasyCoder printers equipped with the EasyLAN 100i Network Interface Card.

Together, the Intermec solution provides robust printer management and the ability to print across an intranet to any location at any time as well as have the EasyCoder printer query the database for the required information.



THE HIDDEN COSTS OF LABEL PRINTING

Printing bar code labels in a manufacturing or warehousing facility should be a straightforward, streamlined process. Many companies depend on their ability to print thousands of labels each day. Yet in today's industrial environments, many label printing systems are maintenance-intensive, involve redundant devices and are prone to downtime.

Consider the label printing configuration common to many companies: it includes bar code label printers situated at various locations throughout a facility, host computers, and terminals or PCs situated between the host computer and various printers. These many devices, all with their own operating systems and applications, require specialized installation and maintenance. Not only are more personnel required to maintain the equipment, but the end-to-end printing process is convoluted and time-consuming.

INTERMEC'S NETWORKING SOLUTIONS BOOST PERFORMANCE AND SIMPLIFY MANAGEMENT

Aimed at simplifying and streamlining bar code label printing, Intermec's Networking solutions deliver four important benefits:

- Reduce the number of devices involved in network printing
- Enable system administrators to remotely manage all printers via their intranet
- Minimize downtime by enabling system administrators to quickly diagnose printer problems
- Enable non-IT staff to replace old or broken printers without IT host system reprogramming

COMPONENTS OF THE INTERMEC NETWORKING SOLUTIONS

EasyLAN™ 100i Network Interface Card

The EasyLAN 100i Network Interface Card (NIC) acts as a print server — an interface between a printer and the network. EasyLAN allows users to connect directly to the printer and send print jobs to it. Available as an optional device for use in the EasyCoder 501XP, 601XP, F2 and F4 label printers, the EasyLAN 100i provides these printers with a 10/100BaseT fast Ethernet network connection. The EasyLAN 100i may either be factory-installed in the EasyCoder printer or installed at a later time using the EasyLAN 100i field installation kit. Unlike products that "piggyback" a print server to the parallel port of the printer, EasyLAN provides a direct connection: the EasyLAN 100i is directly interfaced to the printer's processor board, dramatically increasing the throughput of Intermec's networked printers by up to 50 percent.



By leveraging the fastest network operating systems available, the EasyLAN 100i utilizes the bandwidth offered by 100BaseT Fast Ethernet network infrastructures and combines with Intermec's RISC-powered printers to print the most complex labels at lightning speed. Not only does EasyLAN 100i provide printer interface at unmatched speed, but the advanced bi-directional communication and high-speed multi-channel interface allow tasks such as receiving error messages, sending print jobs, and querying printer status, to be performed simultaneously! The multi-channel interface designates unique channels for data and management, utilizing different channels for common functions including Data, Alert, Configuration, SNMP and HTML.

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EasyLAN 100i supports most major network operating systems, including NetWare (NDS and NDPS), Windows (3.1x, 95, 98, NT and 2000), UNIX, OS/2, LANtastic, and LAN Manager/Server), allowing connection of Intermec's bar code label printers to virtually any operating system. Also supported are industry-standard protocols, such as HTTP for platform-independent management capabilities via standard Web browser, as well as TCP/IP for integration with open standard, common network management software, including HP Open View, HP JetAdmin, and HP WebJetAdmin.

Easy to use and configure, the EasyLAN 100i connects via standard RJ-45 network cables and can process instructions from across LAN or WAN, and can be configured using a standard Web browser via an Intranet. Installation of the EasyLAN 100i and its integration into the network is simplified by software provided on CD-ROM with the interface card.

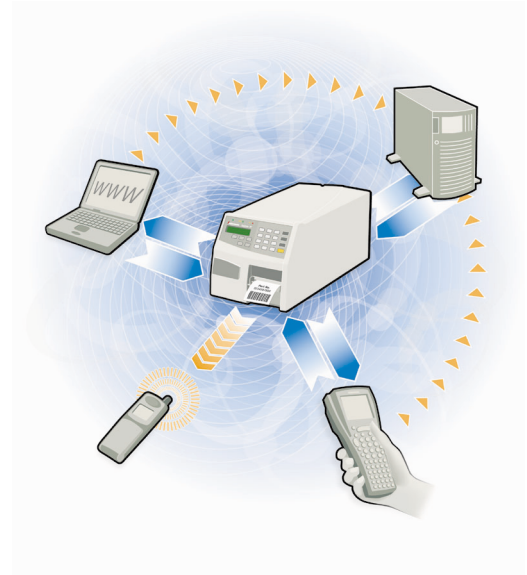
Intermec Printer Application Server™

With the Intermec Printer Application Server (IPAS), the printer itself becomes an interactive device, a client on the network that prompts the host system for information it needs via its keypad and LCD.

IPAS provides these benefits:

- Support for ODBC connectivity, which enables printers to access corporate databases over the company's network, interacting with and retrieving data from the host computer based on varying criteria (for example, part numbers entered by the operator on the front panel keyboard/display).
- Eliminates the need to associate a PC directly with the printer. PC-free printing saves on cost and space and creates a more efficient and comfortable work area.

Included with IPAS, the Intermec message server software provides a simple way for the printer to send alert messages via the network utilizing SNMP (Simple Network Management Protocol) traps. This fault-tolerant design allows for alert messaging that provides pre-emptive failure notification using a variety of communications methods (such as pagers, mobile phones, and personal data assistants) even when the printer is printing. Since most failures occur during printing, this feature helps avoid unnecessary delays and ensures maximum production efficiency, while the multi-device messaging provides the utmost in convenience.



Intermec Printer Network Manager™

Managing thermal printers on a network is often a time-consuming and difficult task because IT has to integrate these unfamiliar devices into their management software. The Intermec Printer Network Manager is a powerful freeware utility that provides the ability to auto-find Intermec printers on your network, change network settings for the printers and enable real-time alerts in the form of e-mails (for example, "out of paper" or "out of ribbon"). Grouping of printers and statistical information on alerts are just a few of the many features in this free software utility, which can be run as a service on Windows 2000 Server, NT or as a utility on Windows 95/98. Managing thermal printers on a network has never been so easy.

EasyCoder printers can be programmed using Fingerprint™, an Intermec BASIC™ software programming language that is highly capable and adaptable. Fingerprint lets you utilize your printer in unique ways that are unconventional to most thermal printer applications today.

With Fingerprint, you can establish communication between virtually any host system and the EasyCoder printer, and can fully customize the printer to the user's specifications. You can also use Fingerprint to emulate and replace printers without requiring host system reprogramming. These capabilities eliminate the need for middleware and intermediary devices such as a PC. Using Fingerprint you can program printers to control an entire labeling system, receiving and sending signals to virtually any device, including scales, scanners, mechanical arms, electronic eyes, conveyor belts and even other printers.

FINGERPRINT™ EXTENDS PRINTER NETWORK CAPABILITIES WITH EASYLAN 100i

Fingerprint supports Web-based forms fill-in printing

In addition to the standard bar code printer applications, EasyLAN 100i makes it possible for EasyCoder printers to host Web-based forms that are accessible from any standard Web browser – and host those pages on the printer itself! Web forms are created using a standard HTML editor and are stored in the printer's memory with Fingerprint. This means that forms are available from anywhere on the network at any time. The end user simply accesses the form by using a standard Web browser and the printer's URL.

Fingerprint allows an intelligent printer to operate standalone

Fingerprint-enabled printers can also work as convenient stand-alone or plug-in replacement printers. For example, in some Warehouse Management Systems (WMS), competitive printers can be replaced with EasyCoder printers to add advanced functionality and performance without additional investment of time and money to change the WMS to accommodate an upgraded printer. The Intermec printer is able to convert the host's output data stream to produce the desired label.

THE ULTIMATE IN PRINTER CONNECTIVITY – WITH EASY MAINTENANCE

Offering the ultimate in flexible printer management and connectivity, EasyLAN 100i-enabled printers are based on standard TCP/IP protocol, allowing printing via the largest network available. And, because many companies are making the transition from their proprietary network operating systems to an open system, EasyLAN products support the most widely adopted network operating systems. EasyLAN printers evolve with your systems to offer a seamless transition to the open industry standard. EasyLAN also makes it easy to administer printers using the same management tools as are used for other network devices. There is no need to learn new software programs or to support special platforms.

Benefits Summary

The combined capabilities of Intermec's EasyLAN 100i Network Interface Card, the Printer Application Server, Printer Network Manager, and its extensibility via Fingerprint programming enable customers to optimize the performance of their networked printers – all while simplifying maintenance and reducing capital costs.

5 Ways Intermec Optimizes Network Printing

Intermec Networking products provide many customer benefits and cost savings:

1. Reduces capital and maintenance costs by removing redundant equipment from the network
2. Simplifies and accelerates label printing by providing a high-speed connection between the printer and the host database, and by allowing printing across a LAN, WAN, or intranet
3. Minimizes downtime by providing alert messaging, which notifies administrators of problems while printing is under way
4. Simplifies the process of adding printers to the network by enabling non-IT users to interact directly with a printer via its front panel display.
5. Provides Web page hosting of forms that can be accessed by anyone on the network via a standard Web browser.

To Learn More

To learn more about Intermec label printing products, visit our Web site at www.intermec.com, or see Intermec's Web-based printing demo at <http://webprinterdemo.eu.intermec.com>.



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