



Connectware™

Digi International, the leader in Connectware, makes device networking easy by developing products and technologies that are cost-effective and easy to use.



Making
DEVICE NETWORKING
easy™

Application Guide
Point-of-Sale
www.digi.com

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Introduction/Overview



Digi International, the leader in Connectware, makes device networking easy by developing products and technologies that are cost-effective and easy to use. With more than 18 years experience and over 20 million ports shipped worldwide, Digi is a recognized brand with a reputation for reliable, innovative, quality products, and strong technical support.

Digi Connectware is used in thousands of enterprise applications worldwide, with particular success in the retail/Point-of-Sale (POS) market space. We offer an extensive range of solutions for retail applications, including device servers, terminal servers, Universal Serial Bus (USB) connectivity, environmental monitoring products and asynchronous serial cards. We also provide leading edge software technology like RealPort® and USB Over IP®. Whether you own a single gas station or a nationwide chain of department stores, Digi has the tools you need to easily connect and network-enable bar-code scanners, receipt printers, scales, cash registers, credit card readers or any type of POS peripheral device.

The bottom line is simple. We can provide the tools you need to reliably network your devices so you can focus on running your business. Our solutions make it possible for you to manage inventory; monitor assets; share information across a LAN (Local Area Network) or WAN (Wide Area Network); simplify cabling; or streamline your POS system architecture. We can also lower your total cost of ownership by upgrading your retail stations using existing application software and peripheral devices. Let us show you, like we have shown the retail customers featured in these pages, how Digi is Making Device Networking Easy™.

Department Store Chain

Creating a cost-effective, elegant retail solution with as few power cords and cables as possible

Problem

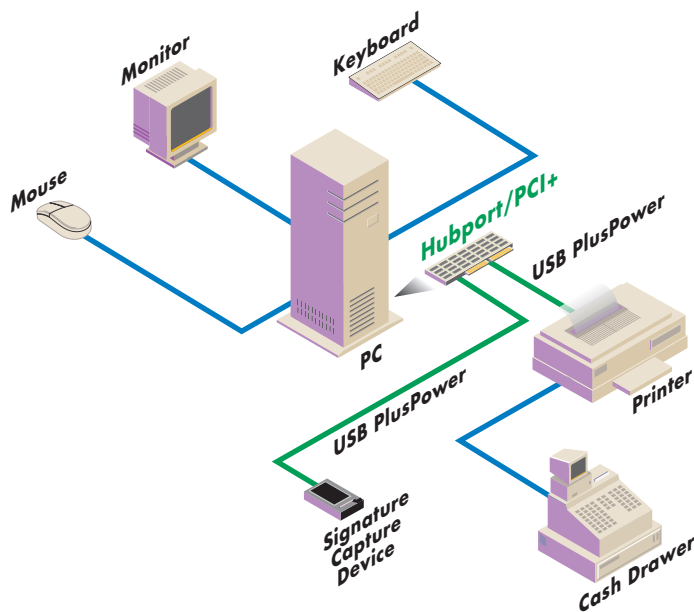
Hubport/PCI+

Solution

A department store was preparing to upgrade its POS stations in its stores nationwide. Each system required a variety of POS peripheral devices, some of which were USB-attached and required external power supply bricks. This created a tangled mess of wires, required extra room for the bricks, and also made it difficult to troubleshoot and perform routine maintenance. The retailer had two basic requirements for the upgrade: eliminate external power supply bricks for USB devices and keep upgrade costs to a minimum.

The system integrator suggested a migration to USB PlusPower peripheral devices, since they do not require external power supply bricks even for higher power devices like printers. Since this technology, also known as powered USB, is a relatively new trend in POS, a specialized retail system is usually required to connect the devices. In this case, “specialized” meant beyond budget, so the department store was at a loss as to how they could implement the technology while keeping costs down.

The Hubport/PCI+ enabled the department store to connect the USB PlusPower peripheral devices to a standard, low-cost PC. This four-port card solution was installed, keeping costs of the new retail system to a minimum. The department store was able to migrate to USB PlusPower receipt printers and signature capture devices, eliminating the problematic power supply bricks and instantly saving space. The Hubport/PCI+ also provided an applet that enabled technicians to turn off power to one or all devices, allowing periodic system updates without significant downtime. Implementing the Hubport/PCI+ solution allowed the department store to meet its key requirements in the system upgrade.



Now You Can....

Eliminate power supply bricks for USB devices and transform a basic, low-cost PC into a high performance retail system.

Hubport/PCI+



POS System Manufacturer

Problem

Creating smaller, centrally managed retail stations

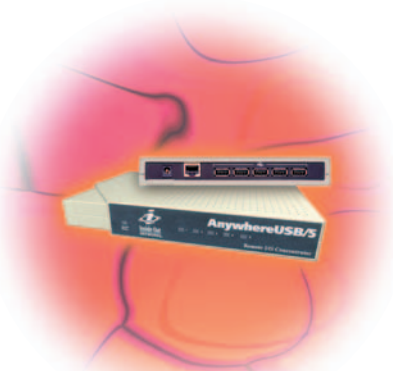
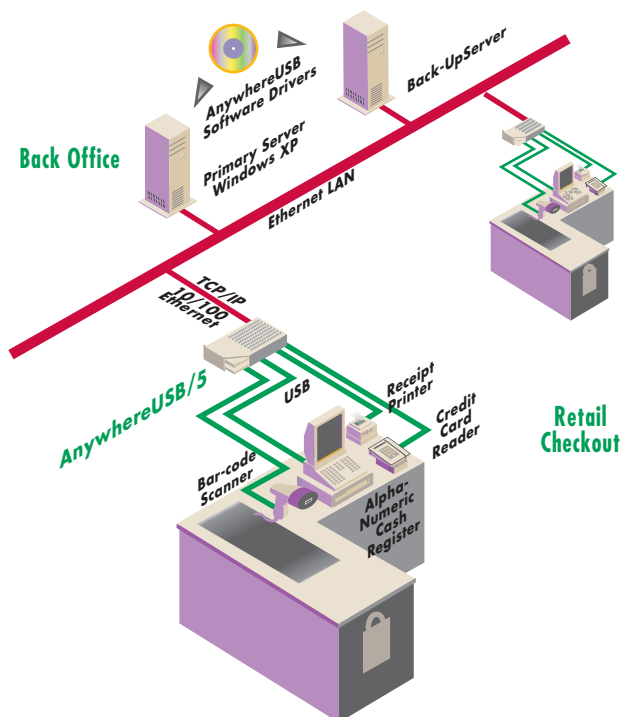
Solution

AnywhereUSB/5

Real estate, especially floor space inside a store, is invaluable to a retailer. The smaller the POS stations, the more room for merchandise, and the higher potential for revenue. A major POS system manufacturer was searching for a way to build a thinner POS station for a retailer with three checkout stations per store. The retailer wanted not just a smaller footprint, but also an easy way to centrally manage each station.

The POS system manufacturer tested the AnywhereUSB/5, a 7-inch wide network-enabled USB hub, and found that it could take the place of the PC or dumb terminal at each POS station. Special software drivers are loaded on the back-office server, where all transaction processing takes place via USB Over IP® technology. Each POS station includes one AnywhereUSB, which is connected to the LAN over a standard TCP/IP connection. A bar-code scanner, credit card reader, receipt printer and alphanumeric cash register are connected to the AnywhereUSB. The five USB ports on each AnywhereUSB appear to be locally attached to the back-office server.

The AnywhereUSB also offered this retailer centralized management, instantly increasing security and reducing IT support. Since the AnywhereUSB replaced the PC at each POS station, less user-intervention can occur, reducing data corruption or tampering. It enables IT to perform maintenance and upgrades at a single server rather than at multiple PCs. This set-up also provides system redundancy – if the server fails, another server on the network can take over, reducing system downtime.



AnywhereUSB/5

Now You Can....

Take the PC out of the checkout lane to create smaller retail stations and simplify operations with USB Over IP technology.

Retail Distribution Center

Network-connecting printers and scanners that are scattered throughout the warehouse

Problem

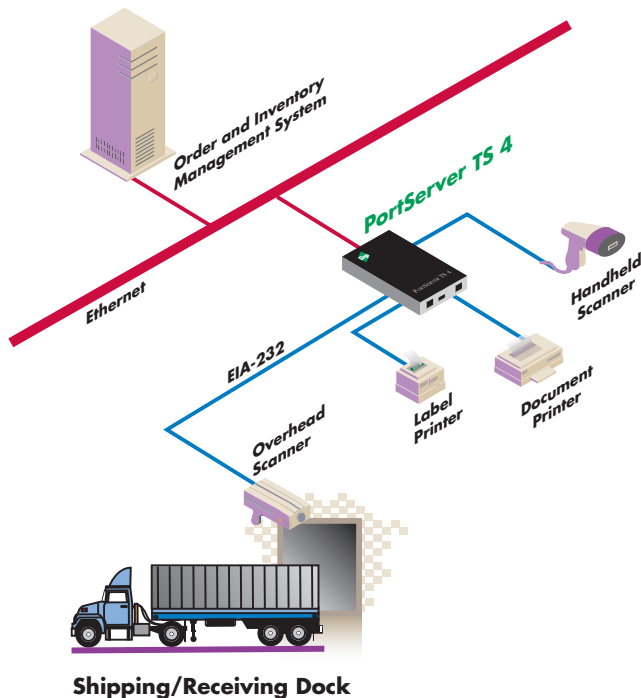
PortServer TS 4

Solution

A warehouse is the heart of any merchandise distribution. The fast and accurate tracking of incoming and outgoing shipments is essential to successfully manage orders and inventory.

In order to streamline the logistics associated with running its merchandise warehouses, this company decided to upgrade the warehouse system. Several overhead scanners were installed at each warehouse location to allow faster and more efficient unloading of delivery trucks using conveyors, virtually eliminating the slow and resource-intensive manual scanning process. The scanned information is then used to automatically print labels, route packages on the conveyors and immediately validate purchase and shipping orders. A key requirement of the project was the easy and seamless network integration of scanners and printers, which were often scattered throughout the large facilities.

The PortServer TS 4 with Digi's patented RealPort technology was deployed in each warehouse, connecting up to four different serial devices to the existing order and inventory management system. Scanners and printers were made available on the network, without any changes to existing application software and hardware. The flexibility of Digi device servers proved to be invaluable, allowing the customer to significantly reduce operating costs and function more efficiently.



Now You Can....

Optimize supply chain efficiency by automating delivery and pick-up of warehouse merchandise using Digi's multiport device servers.



PortServer TS 4

Grocery Store

Problem

Reliably connecting serial peripheral devices to low-profile PCI slots

Solution

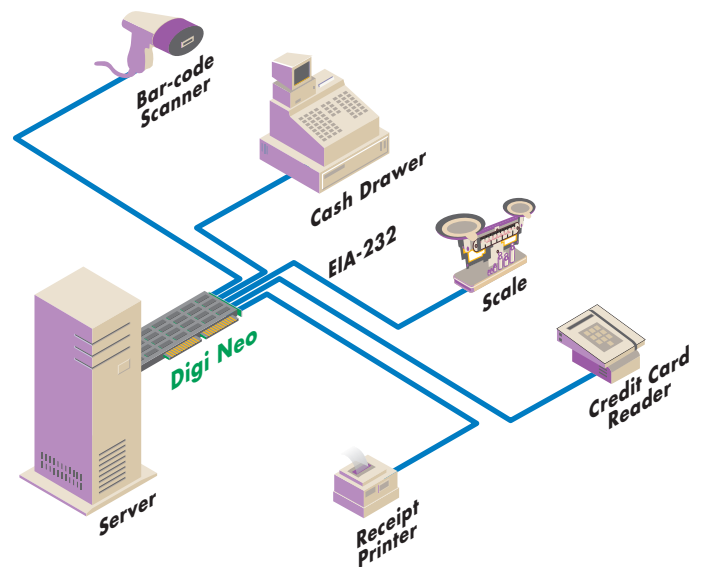
Digi Neo

Proprietary networking and POS systems are commonplace in today's retail environment. For some companies, the specialized IT support required for system maintenance and upgrades of these systems is not practical.

A grocery store chain with 94 locations in the eastern United States was preparing to overhaul its LAN and POS application. Their previous retail system infrastructure relied heavily on proprietary components that required expensive and time-consuming programming and maintenance by an external IT professional. The company wanted to create a simple POS system, using networked PCs to connect the required peripheral devices.

The grocery store began looking for an internal PCI card solution to add serial connectivity to its PCs; however, it realized that a "low-profile" card was required because the PCI slot in each PC was half the height of standard PCI cards. To further complicate matters, most PCI card manufacturers only offer low-profile solutions in two- and four-port options. Since they needed to connect a receipt printer, scale, credit card scanner, cash drawer and bar-code scanner, at least five serial ports were required.

The integrator working with the grocery store presented the Digi Neo Universal PCI 8-port card as part of a total LAN-based checkout system. The Digi Neo is one of the only low-profile eight-port card solutions available on a single board. The grocery store liked the flexibility of having extra ports for future connectivity needs, as well as extensive cabling and connector options available with the Digi Neo.



Digi Neo

Now You Can....

Easily add up to eight serial ports to a low-profile PCI card slot for serial peripheral device connectivity.

Convenience Store

Connecting EIA-232 peripheral devices to a POS station with no serial ports

Problem

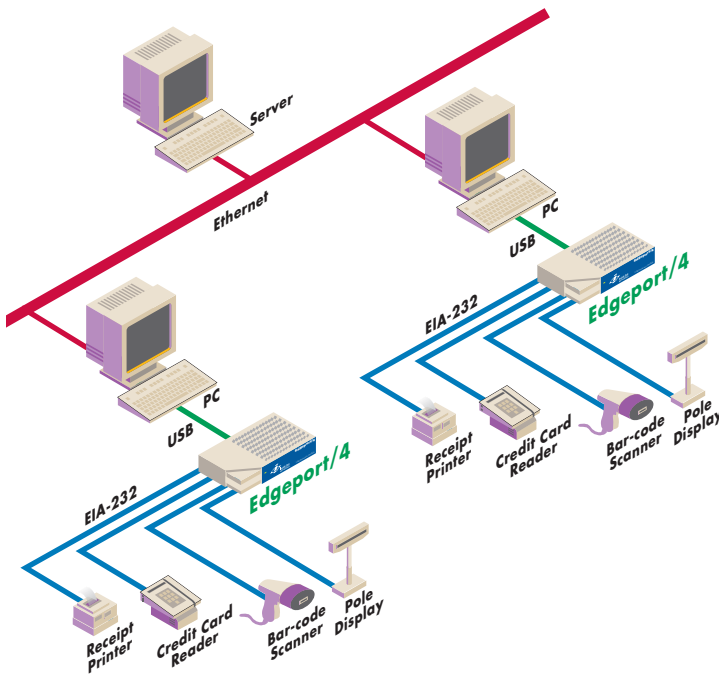
Solution

Edgeport/4

While there are numerous nationwide convenience stores throughout the United States, small, family owned stores also flourish. These smaller stores often cannot justify the expense of sophisticated, pre-packaged retail systems, so finding lower cost alternatives is a common concern.

A small convenience store chain needed to replace its outdated POS systems while protecting its investment in application software and peripheral devices. Each location required two POS stations in the front of the store, and a third PC acting as a server in the back office. The company wanted to build the checkout terminals from the ground up using low-cost PCs and its existing peripheral devices instead of expensive, pre-configured retail systems. They also wanted to have the flexibility to add or remove peripheral devices as connectivity needs changed, without onsite IT support. Finally, they required the ability to easily disconnect devices and move one of the PCs from the store into the back office should the server fail.

Since the new PCs they purchased did not have serial ports, they needed an easy I/O expansion solution to connect a receipt printer, bar-code scanner, credit card reader and pole display at each checkout. The Edgeport/4 USB-to-serial converter made it easy to add serial ports to the PCs, enabling the convenience store to create a low-cost retail system. The Plug and Play solution connected to one of the PC's onboard USB ports, adding four serial ports in minutes. Should the server in the back office go down, moving one of the PCs from the store floor is easy, since disconnecting all the peripheral devices is just a matter of unplugging the Edgeport/4.



Now You Can....

Add serial ports to a PC in minutes to easily connect POS devices like bar-code scanners, receipt printers, pole display and credit card readers



Edgeport/4

Consumer Electronics Retailer

Problem

Network-enabling peripheral devices for existing POS systems

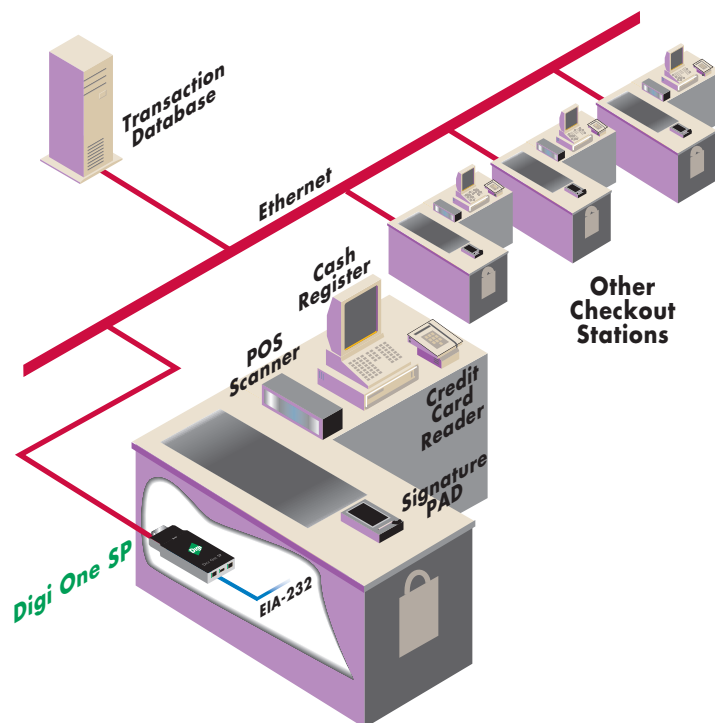
Solution

Digi One SP

Retailers incur significant costs from the handling and retrieval of credit card receipts. Finding a way to reduce these costs, while protecting themselves against credit card fraud, was a key initiative for this consumer electronics and appliances retailer.

This retailer was scheduled to relocate its checkout terminals to improve the in-store shopping experience. This was the perfect time to upgrade the existing checkout systems to include electronic signature capture devices. These devices would allow the retailer to easily retrieve receipts and the corresponding signatures, thus streamlining transaction processing and minimizing the cost of fraudulent charge-backs. The retailer wanted to perform this upgrade without impacting the existing POS software application investment.

The Digi One SP device server connected the signature pads to each store's transaction database simply by utilizing the in-store network. Digi's patented RealPort software allows Ethernet connected serial ports to be used in exactly the same way as locally connected serial ports, without any changes to existing application software. This enabled the electronic signature capture devices to be seamlessly integrated into the POS system. This cost-effective and reliable solution protected the existing POS infrastructure, streamlined credit card transactions and increased customer convenience.



Digi One SP

Now You Can....

Easily network-enable new POS devices without impacting existing POS infrastructure.

Pay-at-the-Pump Manufacturer



Customer drive-offs at gas stations

Problem

Watchport/V

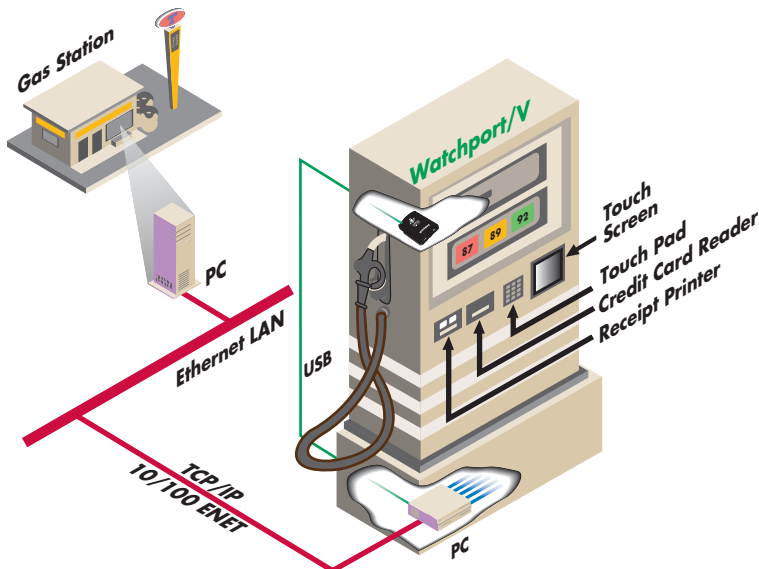
Solution

For many gas station owners, the pay-at-the-pump system gives new negative meaning to the term “self service.” While customer convenience is increased, so is the potential for customer drive-offs, or leaving the gas pump without paying.

A gas pump manufacturer with an installed base of 1500 systems in the southern United States needed a solution for customer drive-offs, a problem which caused its larger customers up to \$1,000,000 in losses per month. The manufacturer wanted a cost-effective surveillance solution to capture a photo of the license plate and driver at the beginning of each transaction, since these elements are required in order to prosecute the offender.

The manufacturer evaluated the Watchport/V USB camera and found its low-light sensitivity, high resolution and ease of use to be exactly what they needed. The camera is highly customizable, with a replaceable lens and a removable chassis, and can easily be integrated into a gas pump enclosure since it is USB-attached and does not require an external power supply.

The manufacturer worked with Digi to write a software package that would trigger the Watchport/V to snap a photo when a transaction was initiated at the pump by selecting “Pay Inside” as the payment option. If the transaction was not completed within a given timeframe, the image would be uploaded to the store server and saved for identification purposes.



Now You Can....

Add surveillance functionality to a pay-at-the-pump system or other kiosk without a substantial technology investment.



Watchport/V

Entertainment Retailer

Problem

Effectively managing inventory and checkout systems

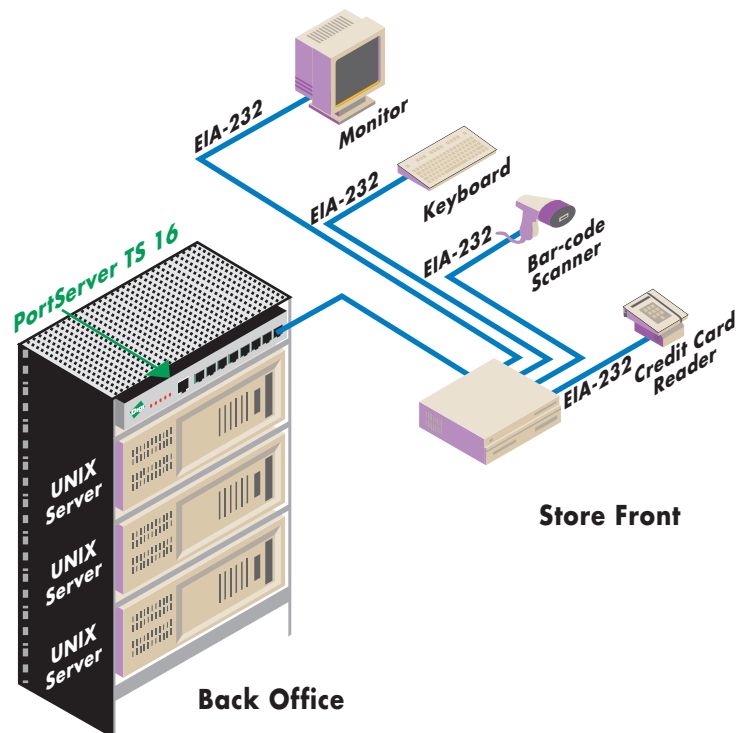
Solution

PortServer TS 16

In the fast moving retail business for movies, music, video games and books, store owners must have not only the most up-to-date product selection on hand, but also a low maintenance, reliable IT infrastructure to manage inventory and run an efficient checkout system. With bookstores and video rental stores on practically every corner, the need to maintain accurate inventory and operate efficient checkout systems is essential to ensure customer satisfaction and build client loyalty.

A major entertainment retailer with 144 locations nationwide needed an IT solution to upgrade its checkout and inventory systems. Reliability and minimum system downtime were key requirements in the system upgrade. The company used a UNIX platform and needed an easy way to connect the terminals in the checkout lanes and information desks. It was imperative that data transfer between the front and back of store was always in sync, so that inventory was accurate at all times.

The PortServer TS 16, a terminal server with 16 serial ports, integrated easily into the rack-mounted server in the back office to create an elegant device networking solution. Each terminal in the checkout lanes and at the information desks is connected with EIA-232 serial cables to the PortServer TS 16. The bar-code scanners, credit card readers, receipt printers and other POS peripheral devices are attached directly to the terminals. The new solution simplified not only the checkout software implementation, but also the data transfer since all the information is now multiplexed to a single host connection.



PortServer TS 16

Now You Can....

Implement a low maintenance IT infrastructure to ensure seamless information flow between inventory and checkout systems.

Commercial Paint Supply Retailer

Using multiple operating systems in a POS architecture

Problem

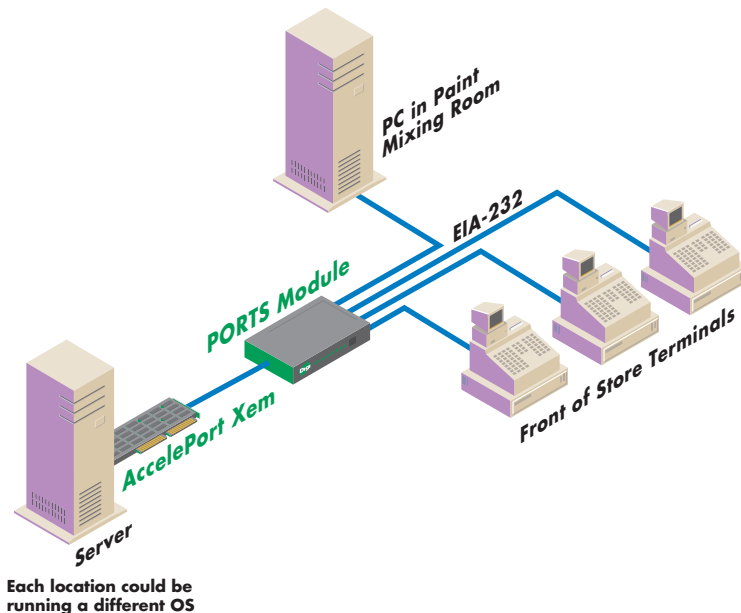
Solution

AccelePort Xem

Updating a POS system often means migrating to a new Operating System (OS). Finding a solution with broad OS support was a key initiative for a commercial paint supply retailer in the Northeast United States, who was planning a system upgrade, including a new OS deployment.

Each location had multiple PCs throughout the store: at the front counter for order entry; at the back of the store where paint mixing orders are filled; and at multiple checkout terminals. They needed a reliable solution for networking the PCs to the store's central server, which was connected via a WAN to its headquarters' main server. To complicate matters, several different OS's were being used at the different locations. System administrators planned to standardize on one OS, but had not finalized the timeline or even the platform they would use. They had narrowed their decision to Microsoft Windows® NT, Windows 2000, Linux® and SCO®. They wanted to test a new networking solution that was compatible with each OS, since multiple ones would be used indefinitely.

The AccelePort Xem system offered an easy solution for connecting their POS terminals. The product's broad OS support was a key factor in the decision, as it is compatible with all the platforms being used by the company today. The flexible system also features a host adapter card, which was installed inside each store's server, and a compact Digi PORTS module that provides access to eight or 16 serial ports to connect each POS terminal. The retailer needed a solution that would allow for future growth, and the AccelePort Xem did just that – as many as 64 ports could be added to one system as connectivity needs changed over time.



Now You Can....

Easily network all of your retail locations, even if multiple operating systems are used at different stores.

AccelePort Xem



Kiosk Manufacturer

Problem

Creating Interactive kiosks triggered by user proximity

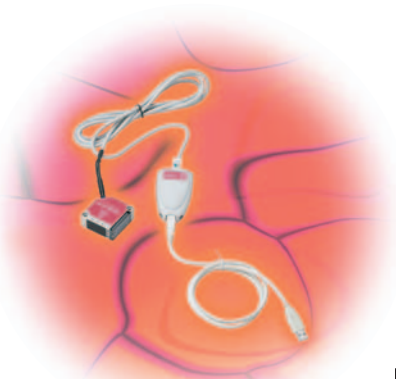
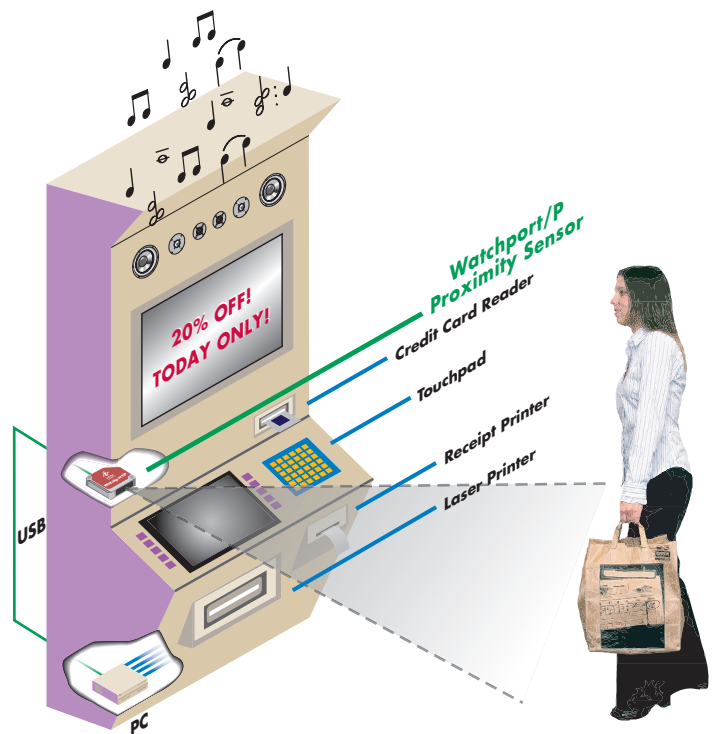
Solution

Watchport/P

Given the number of posters, flyers and other advertisements inside a shopping mall, catching the attention of a shopper can be tricky. An interactive kiosk manufacturer found a way to do just that with its 3D multimedia kiosks.

The manufacturer develops interactive kiosks that are placed in outlet malls throughout the United States. These kiosks provide general store information, print coupons and even collect market research data for mall owners. The video and audio output are designed to activate when a shopper is detected near the kiosk, offering a message to attract passersby. The event triggering device inside the first generation kiosks proved to be difficult to install and use, and was also priced higher than the manufacturer could support moving forward.

The kiosk manufacturer tested the Watchport/P, a USB-attached proximity sensor. It utilizes the easy Plug and Play installation inherent to USB connectivity, and is easy to integrate into an existing application. The sensor has built-in functionality to enable a video monitor to activate when a person is detected within an adjustable range of up to five feet of the kiosk. Using the Watchport/P sensor's Application Program Interface (API), the kiosk manufacturer was able to write its own software program that also activated the audio portion of the application.



Watchport/P

Now You Can....

Make your information kiosk stand out from the others by integrating proximity detection and event triggering.

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