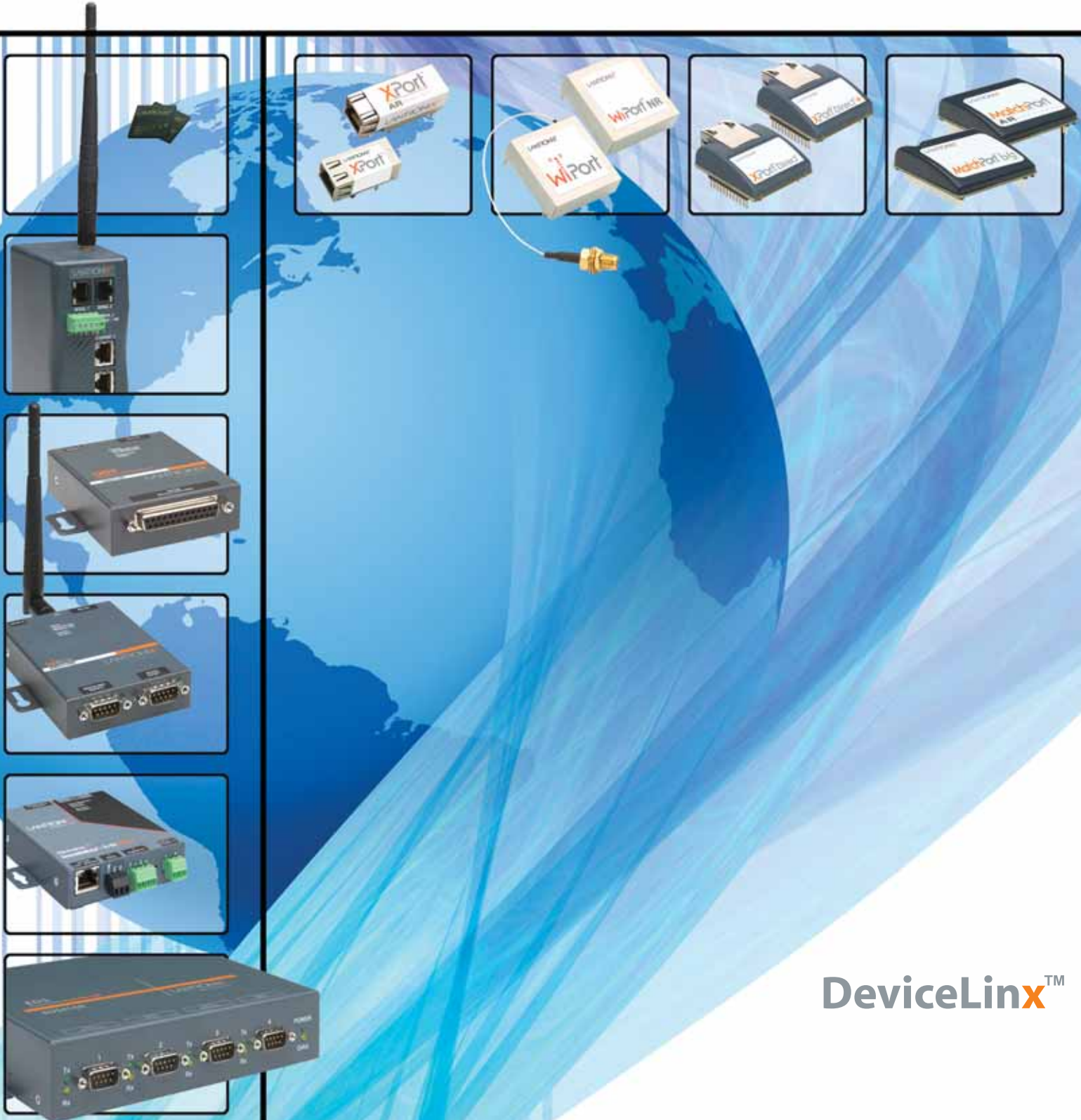
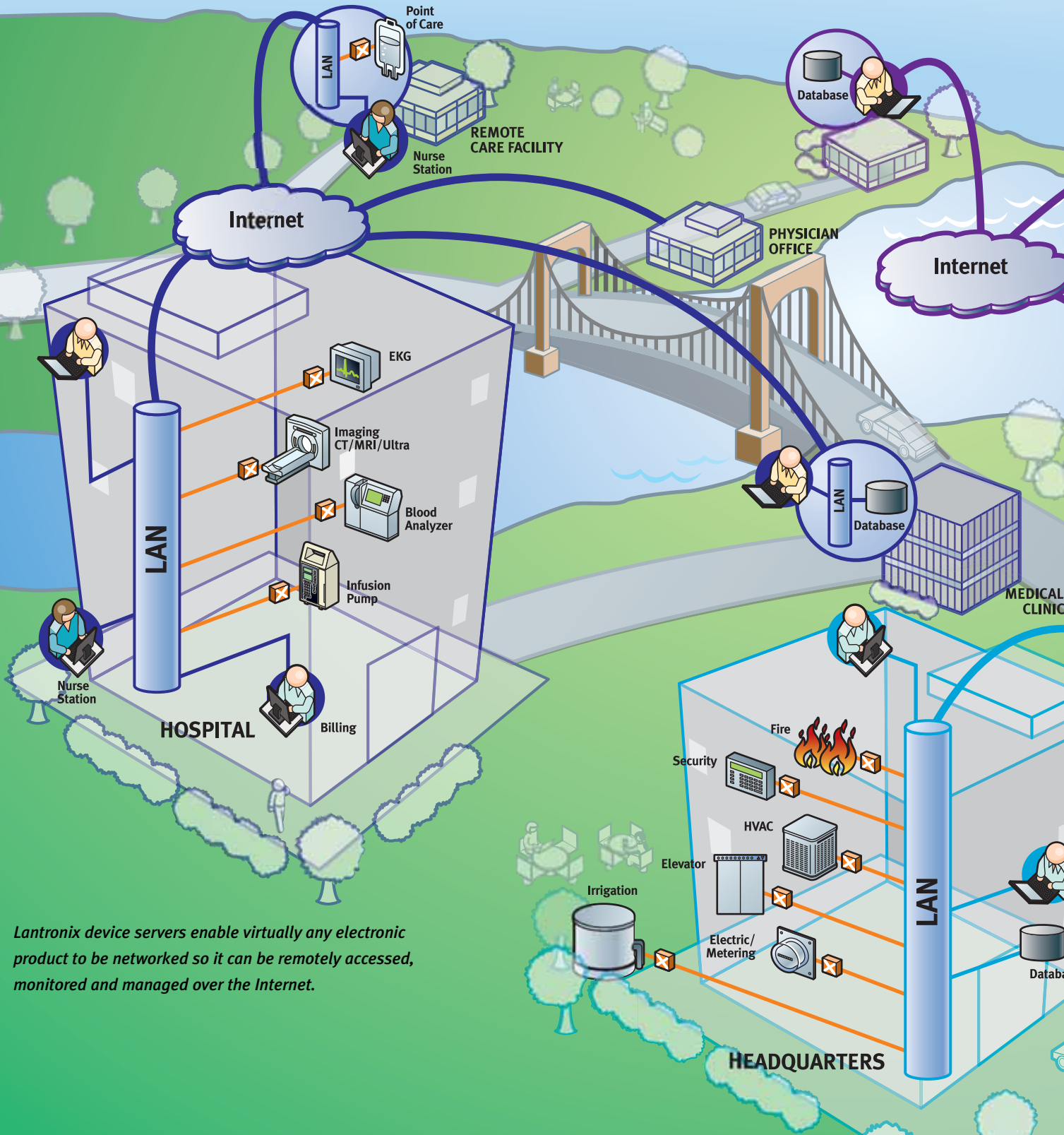


Think it. Connect it. Control it.





DeviceLinTM



Lantronix device servers enable virtually any electronic product to be networked so it can be remotely accessed, monitored and managed over the Internet.



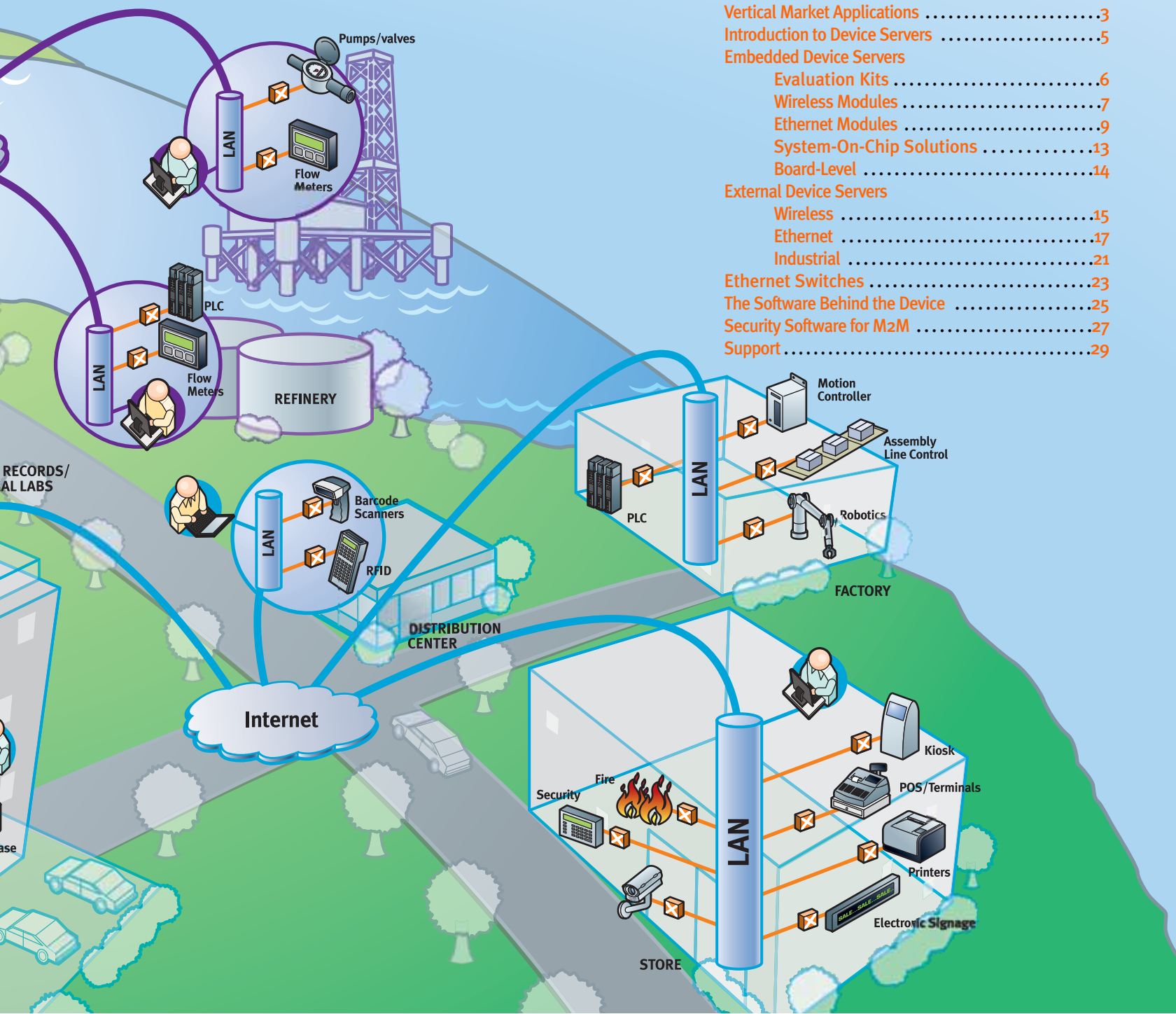
DEVICE CONTROL AND BUSINESS INTELLIGENCE THROUGH THE POWER OF THE INTERNET

Together, the network and the Internet are the lifeblood of business. Today's competitive marketplace requires lightning-fast response – and networking provides that vital measure of speed and intelligence to your business and products.

M2M (machine-to-machine) networking is the future of the business equipment infrastructure. Device networking technology is the backbone of M2M, and connects almost any piece of equipment to a network or the Internet so it can be accessed remotely. With Lantronix DeviceLinX™ products, it's about more than just connection. It's about the ability to securely communicate with and control the attached equipment. DeviceLinX products enable users to access, monitor, diagnose and control devices from virtually anywhere in the world, at any time. These advanced device networking solutions can help prevent equipment downtime with proactive maintenance, improve processes and provide greater business intelligence with real-time automated reporting. The result is maximized efficiency, better service, reduced overhead and dramatically streamlined operations.

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Connect... Communicate... Control...

THE DIVERSE LANDSCAPE OF MACHINE-TO-MACHINE NETWORKING

Lantronix networking solutions can be used in any industry for virtually any M2M networking scenario imaginable. With literally millions of devices networked worldwide, our products are utilized in sectors including industrial automation, security, building automation, medical, retail/POS, transportation, IT/telecommunications, professional A/V and more.

An important question for OEMs and end users alike is, “how can we add networking capability most efficiently? Should we invest in-house resources, or buy ready-made solutions from an outside expert?”

Lantronix answers this buy-versus-build question with complete hardware and software device networking solutions. Our proven products dramatically shorten the development time needed to implement network connectivity, significantly speeding time to market, providing competitive advantages with new features, and greatly reducing engineering and marketing risks.

OEM DESIGN ENGINEERS benefit from accelerated time to market – the complex networking integration is virtually done. And they don't even have to think about Lantronix products, because they're the most reliable on the market. Best of all, OEMs can focus on building their products, not designing networking capability.



REMOTE/CENTRALIZED ACCESS & CONTROL

BUILDING AUTOMATION

- Building Access Controls
- HVAC Controls
- Lighting Controllers
- Life Safety Controls
- Irrigation
- Elevators
- Electrical/Water Metering

SECURITY

- Access Control Panels
- Fire Control Panels
- Biometrics
- Time and Attendance Clocks
- Security Screeners
- Surveillance Cameras
- Government Facilities



OTHER APPLICATIONS

- Gaming and Lottery Machines
- Commercial Refrigeration and Ovens
- Seismic Monitoring Devices
- Test Equipment
- Gas Detection Equipment
- Weigh Scales

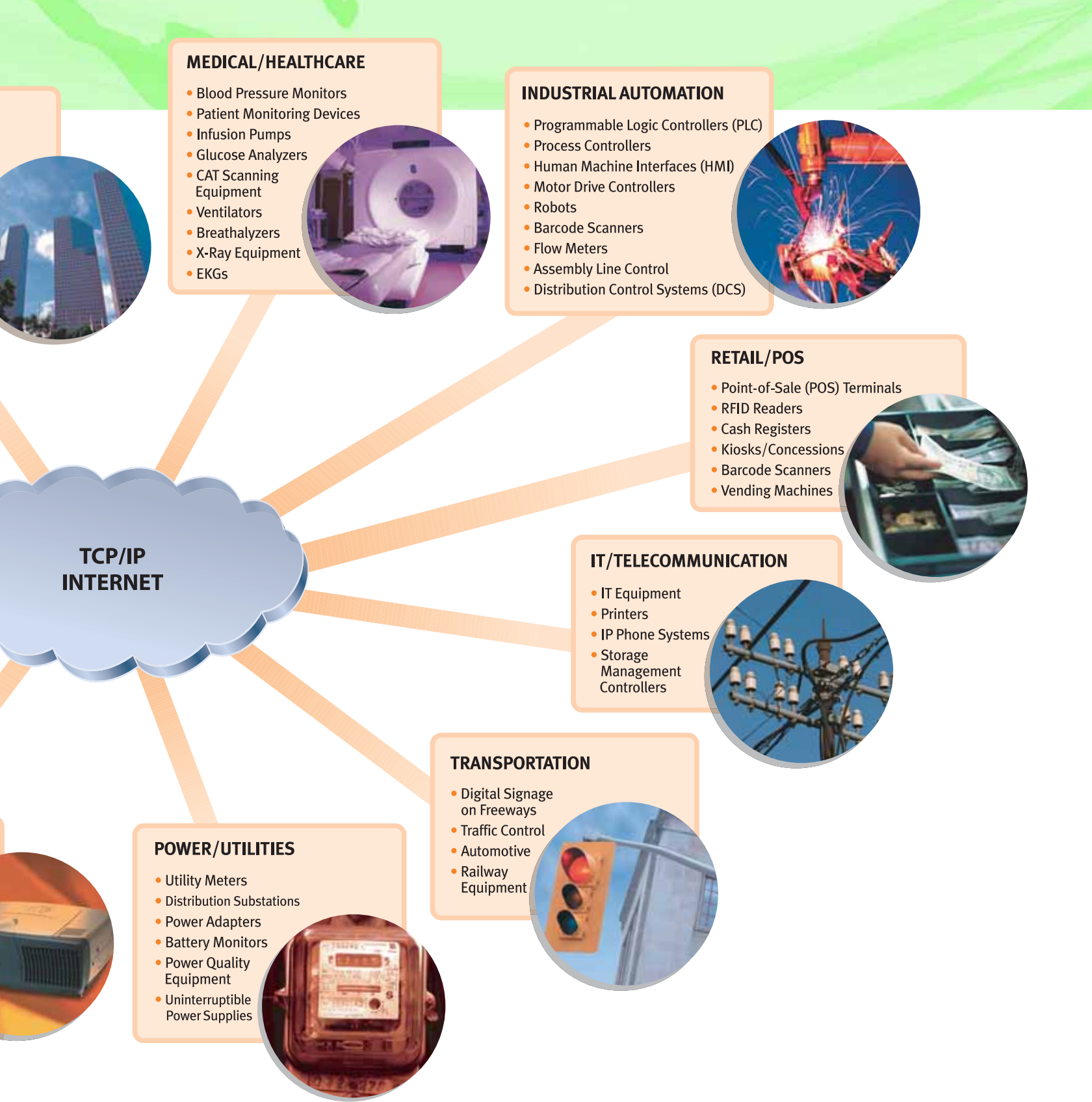


PRO A/V, SIGNAGE

- Video Projectors
- Movie Theater Projectors
- Scrolling Signs
- In-store Video Displays
- Pro Audio – Musical Instruments and Recording Equipment



EQUIPMENT MANUFACTURERS AND SYSTEMS INTEGRATORS can also add valuable functionality with quantifiable benefits. Device servers provide the ability to monitor equipment any time, anywhere. By integrating Lantronix solutions, manufacturers provide better, more responsive service and more reliable products – both of which result in greater customer satisfaction.



END USERS see a wide range of benefits. Gone is the downtime suffered while waiting for a technician to troubleshoot peripheral devices. Now, troubleshooting can be achieved over the network. Imagine diagnosing and remedying a problem in a building's security system or a customer's industrial refrigeration unit from hundreds of miles away. Or perhaps a hand-held medical device that's able to wirelessly transmit its results

directly to the nurses' station in real time. Think of the increased level of care that could be provided, or the potential lives that could be saved, through faster, more accurate reporting of test results. Or the ability to control, monitor and troubleshoot your factory automation equipment right from the comfort of your office, even if it's in a remote location. The possibilities are endless!

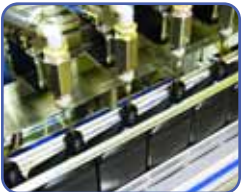
Connect... Communicate... Control...

WHAT IS A DEVICE SERVER?

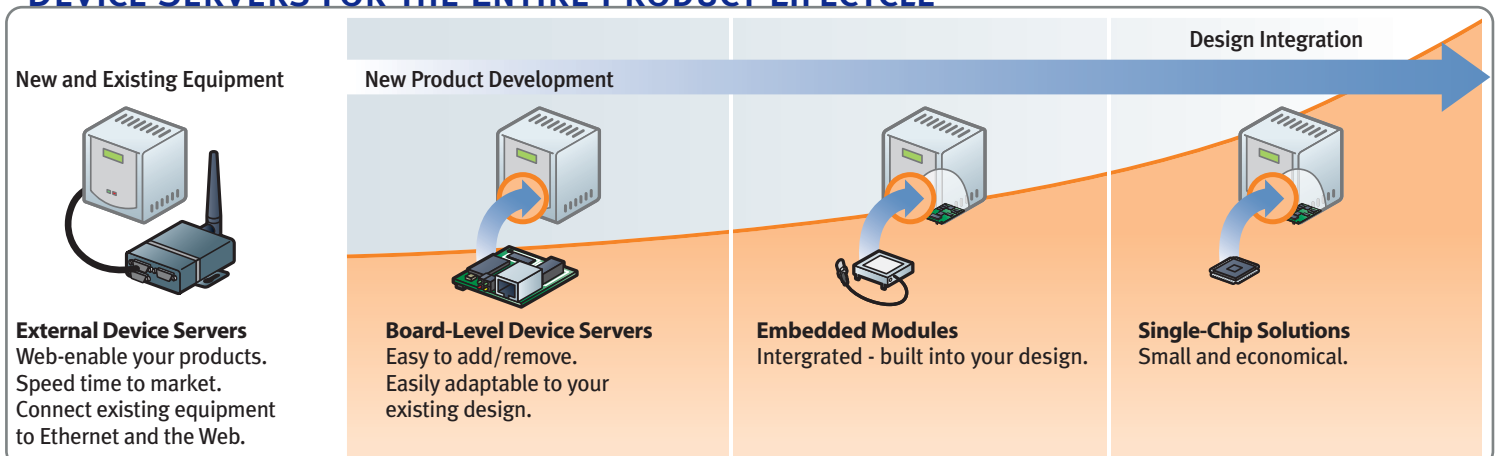
Device servers are integrated hardware and software solutions that enable electronic equipment with serial capability to be networked so it can be accessed, monitored and managed remotely over the Internet. Device servers can be integrated into products at the module or board level, or connected externally to existing equipment.

Lantronix pioneered this field and is the industry's technology leader. Our DeviceLinx line of products includes wired and wireless options that feature a built-in web server, robust TCP/IP stack, full operating system and advanced security options.

- ▶ **Reduce maintenance costs** by enabling businesses to troubleshoot and resolve problems remotely without a service call
- ▶ **Differentiate your products** or service from the competition
- ▶ **Open up new opportunities** and revenue streams from your existing customer base while improving customer service
- ▶ **Gain new business intelligence** from networked-enabled equipment
- ▶ **Offer your customers** new potential for downstream business models by providing a network-enabled infrastructure
- ▶ **Manage thousands of devices** from a single location and achieve compatibility between different types of equipment
- ▶ **Provide better management** and faster decision making with real-time access to information
- ▶ **Increase flexibility** and system performance
- ▶ **Leverage existing** Ethernet wiring and corporate IP networks
- ▶ **Save time and money** by facilitating remote system and device upgrades
- ▶ **Enable management** of a product's application from a web browser
- ▶ **Make training faster and easier** with remote capability
- ▶ **Make predictive failure possible** with real-time monitoring and notification



DEVICE SERVERS FOR THE ENTIRE PRODUCT LIFECYCLE



Lantronix solutions include embedded modules and board-level device servers, external device servers for commercial and industrial, wired and wireless device servers, and system-on-chips – all with a powerful suite of complementary software.

LANTRONIX EMBEDDED NETWORKING EVALUATION KITS

Lantronix offers a wide range of evaluation kits for our XPort, WiPort and MatchPort embedded module and XChip system-on-chip families.

To purchase evaluation/demo kits, visit www.lantronix.com/evalkits.

XPORT EVALUATION KIT

- ▶▶ XPort evaluation board
- ▶▶ XPort device server
- ▶▶ +5VDC Universal Power Supply with snap-fit plugs for different countries
- ▶▶ RS-232 cable, DB9M/F
- ▶▶ Cat5e UTP RJ45M/M Ethernet cable
- ▶▶ Serial adapter, 25-pin to 9-pin
- ▶▶ CD with software utilities and documentation



XPORT AR EVALUATION KIT

- ▶▶ XPort AR evaluation board
- ▶▶ XPort AR device server
- ▶▶ +3.3VDC Universal Power Supply
- ▶▶ CAT5e UTP RJ45M/M Ethernet cable
- ▶▶ .025" square-post jumper wires
- ▶▶ RS-232 cable, DB-9, F/F
- ▶▶ CD with software utilities and documentation



XPORT DIRECT DEMONSTRATION KIT

- ▶▶ XPort Direct PCBA (printed circuit board assembly)
- ▶▶ CD, XPort Direct (CD-XPD-01)
- ▶▶ Power supply, wall cube, 3.6V, 1.0A, with 4 AC Plug, RoHS
- ▶▶ Cable, null modem, DB9F to DB9F, 6FT, with label p/n 460-347-054
- ▶▶ Cable, Ethernet, CAT5, 10 foot



WIPORT EVALUATION KIT

- ▶▶ WiPort evaluation board
- ▶▶ WiPort device server
- ▶▶ 3.3V Power Supply
- ▶▶ RS-232 cable, DB9F/F, null modem
- ▶▶ Cat5e UTP RJ45M/M Ethernet cable
- ▶▶ CD with software utilities and documentation



MATCHPORT DEMONSTRATION KIT

- ▶▶ MatchPort demonstration board
- ▶▶ RS-232 cable, DB9F, null modem
- ▶▶ Cat5e UTP RJ45M/M Ethernet cable
- ▶▶ 3.3V power supply
- ▶▶ Antenna



XCHIP/XCHIP DIRECT DEVELOPMENT KIT

- ▶▶ XChip (2)
- ▶▶ XChip PCB (Printed Circuit Board)
- ▶▶ CAT5 Ethernet cable, 10 foot
- ▶▶ Cable, null modem, DB9F TO DB9F, 6FT, with label p/n 460-347-054
- ▶▶ Power supply, wall cube, 3.6V, 1.0A, with 4 AC plug, RoHS
- ▶▶ Cable, jumper, 5 INCH
- ▶▶ CD, XChip (CD-XCP-01)/XChip Direct (CD-XCPD-01)



Connect... Communicate... Control...

POWERFUL, AFFORDABLE AND HIGHLY-SECURE WiFi

The MatchPort family of pin- and form factor-compatible modules enables you to “future proof” your designs. With a choice flexible, media-independent modules ranging from Ethernet, WiFi and ultra-secure WiFi, the MatchPort family takes the complexity out of RF design and networking. OEMs can focus on their core competencies while minimizing engineering risk, shortening development time and reducing development cost.

- ▶ Compact: 45mm x 45mm with 40-pin 2 mm header
- ▶ FCC Class B, UL and EN EMC safety-compliant
- ▶ Power-saving sleep feature
- ▶ -40° to 70°C operating temperature range
- ▶ Two serial ports
- ▶ Ethernet to wireless bridging

MATCHPORT B/G – WIRELESS DEVICE SERVER MODULE

MatchPort® b/g



Pin-compatible
Ethernet version, pg. 9



MatchPort® b/g is a dedicated co-processor module that manages wireless and network activity, permitting the device's host microprocessor to function at maximum efficiency. Using a dual processor design MatchPort b/g enables 802.11 wireless connectivity and web services on any device with a serial interface on its host microcontroller.

- ▶ 128-bit WEP and WPA-PSK, TKIP; 802.11/WPA2-PSK security
- ▶ Optional 256-bit AES (Rijndael) end-to-end encryption
- ▶ Full TCP/IP stack, web server and Windows® deployment software
- ▶ Up to 921 Kbps data rate
- ▶ Eight GPIO pins

MATCHPORT B/G PRO – WIRELESS DEVICE SERVER AND NETWORK PROCESSOR MODULE

MatchPort® b/g Pro



The MatchPort b/g Pro offers the most advanced level of embedded wireless security available! It is an ideal networking solution for data sensitive, regulatory, and IT-driven applications that demand the safest and most reliable technology such as medical records, financial transactions, and government data.

- ▶ IEEE 802.11i-compliant radio with AES-CCMP and TKIP encryption
- ▶ Complete suite of 802.1x Enterprise Authentication Protocols (EAP) including EAP-TLS, EAP-TTLS, PEAP and LEAP
- ▶ SSL TLS and SSH tunneling
- ▶ AES 128-bit encryption (before data goes wireless)

Going beyond IEEE 802.11 standards, MatchPort also features SmartRoam™, a breakthrough technology that provides a higher degree of reliability and mobility. SmartRoam continuously tracks the signal strength of access points within range. If necessary, pre-authentication and caching enable smooth and automatic transition to one with a stronger signal. This enhances mobility within a building, warehouse or across a campus network with less time spent re-authenticating due to a lost connection or re-associating to a stronger signal.

- ▶ Full TCP/IP stack, CGI, AJAX web server and Windows deployment software
- ▶ 32-bit 159 MIPS (Dhrystone 2.1) processor
- ▶ 8 MB Flash/8 MB SDRAM
- ▶ Up to 230 bps data rate
- ▶ Five GPIO pins

EMBEDDED WIRELESS MODULES

READY-TO-GO WIRELESS IN A TINY FORM FACTOR

WiPort – WIRELESS DEVICE SERVER MODULE



The matchbook-sized WiPort® gives OEMs the ability to add 802.11 b/g wireless networking to virtually any electronic device with a serial interface. WiPort also includes Ethernet connectivity, making it essentially two network-enabling devices in one for added flexibility. Its compact package includes our powerful DSTni® controller, 802.11 b/g radio, dual high-speed serial ports, a fully developed TCP/IP network stack and OS.

WiPort is certified by the Federal Communications Commission (FCC), so you do not need to pursue separate certification when incorporating our 802.11 b/g wireless capability. This advantage greatly accelerates and simplifies the design process while reducing the associated costs of bringing your product to market. WiPort's compact design conserves board space and allows easy installation.

- ▶ Ethernet-to-wireless bridging
- ▶ Two serial ports
- ▶ Up to 921 Kbps data rate
- ▶ 128-bit WEP and WPA - PSK, TKIP; 80211i/WPA2-PSK
- ▶ Optional 256-bit AES (Rijndael) end-to-end encryption
- ▶ RS-232 and RS-485 support
- ▶ -40° to 70°C operating temperature range
- ▶ 11 GPIO pins

THE HIGHEST LEVELS OF WIRELESS SECURITY

WEP, WPA AND WPA2 - PERSONAL

WEP and WPA provide encryption and authentication for wireless networks. Wired Equivalent Privacy (WEP) is the most common. WiFi Protected Access (WPA) is designed for use with an authentication server, which distributes different keys to each user. Temporal Key Integrity Protocol (TKIP) provides a major improvement to WPA by dynamically changing keys as the system is used. When combined with its much larger initialization vector, WPA defeats the well-known key recovery attacks on WEP. WPA2 implements the mandatory elements of 802.11i. In particular, in addition to TKIP and the Michael algorithm, it introduces a new AES-based algorithm, CCMP, that is considered fully secure. WPA2 certification is mandatory for all new devices wishing to be Wi-Fi certified.

TRUE END-TO-END ENCRYPTION

Lantronix offers true end-to-end wireless data protection. Our optional Secure Com Port Redirector™ (SCPR) software uses standard TCP/IP protocols and Advanced Encryption Standards (AES) algorithms to map “virtual COM ports” to Lantronix device servers, encrypting and decrypting the data at both ends of the communication. This capability enables COM port-based software applications to communicate securely over the Net to remote serial devices. Additionally, Lantronix offers our Encryption Library Suite to help OEMs easily embed AES into their applications.

LEGEND

Advanced security (wireless and/or SSH/SSL)	Rijndael/AES security	Industrial-grade	Wireless	Runs Evolution OS	RoHS-compliant	Form factor and pin-compatible
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Connect... Communicate... Control...

EMBEDDED ETHERNET MODULES

Lantronix has long recognized that engineers need a simple, cost-effective and reliable way to seamlessly embed network connectivity into their products. Our expertise in device networking and the development of a stable real-time operating system (RTOS) and TCP/IP stack enables manufacturers to add Ethernet and/or wireless connectivity with minimal effort, programming or development time.

Lantronix compact, cost-effective embedded device networking products deliver a complete feature set, including encryption, serial support options, management flexibility, 10/100 Base-T Ethernet or wireless connectivity, and the ability to customize. All at a fraction of the time and cost that would be required to develop an in-house solution.

ADVANCED NETWORKING FOR HIGH-VOLUME APPLICATIONS MATCHPORT AR – PROGRAMMABLE DEVICE SERVER MODULE

MatchPort®
AR ARCHITECT



Pin-compatible
WiFi version, pg. 7



The MatchPort® AR device server delivers highly secure Ethernet connectivity and intelligent web server features to any product with a serial interface on its host microcontroller. It's a powerful co-processor module that sends and receives serial data over Ethernet without burdening the device's main processor. It provides exceptionally affordable single-socket Ethernet networking in the same compact form factor and pin configuration as the MatchPort b/g Wireless 802.11 module, allowing OEMs to design wired Ethernet or WiFi networking into their products using a single PCB design.

- ▶ Enterprise-grade SSL/SSH Security
- ▶ PoE capable with external circuitry
- ▶ Built-in CGI and AJAX web server
- ▶ Optional 256-bit AES (Rijndael) end-to-end encryption
- ▶ SNMP V2c-ready with RS-232 MIB
- ▶ High-performance 32-bit, 166 MHz, 159 MIPS platform
- ▶ 8MB SDRAM/4MB Flash memory
- ▶ Seven GPIO pins
- ▶ "Cisco-like" CLI, XML, serial and Telnet management capability
- ▶ Includes built-in 10Base-T/100Base-TX Autosensing MAC/PHY

FAST, EASY ETHERNET NETWORKING FOR YOUR PRODUCTS

XPORT – ETHERNET DEVICE SERVER MODULE

XPort®



Respecting your need to conserve valuable board space, the XPort® provides the most compact integrated solution available to network-enable virtually any product with a serial interface. The XPort has everything OEMs need to bring products to market with lightning speed, all contained in a single RJ45 package. The need for in-house networking expertise is eliminated, so engineering resources are free to focus on your device application.

- ▶ 10Base-T/100Base-TX auto-sensing Ethernet connectivity
- ▶ Programmable e-mail alerts
- ▶ Embedded HTTP web server
- ▶ Modbus version available
- ▶ Extensive networking protocol support including TCP/IP
- ▶ Optional RS-485 support
- ▶ Optional 256-bit AES (Rijndael) encryption
- ▶ Extremely compact 40x16x13 mm
- ▶ 512K Flash memory
- ▶ Three GPIO pins

EMBEDDED ETHERNET MODULES

HIGHLY AFFORDABLE ETHERNET NETWORKING MODULES

XPORT DIRECT – DEVICE GATEWAY AND DEVICE SERVER MODULES

XPort Direct™



This inexpensive, XPort Direct device gateway module delivers network connectivity to virtually any electronic product with a serial interface on its host microcontroller. Manufacturers can now affordably offer network connectivity as a standard feature, greatly enhancing product value, and enabling a host of applications such as remote monitoring, networked control, data acquisition and Internet content streaming. With its low cost and powerful functionality, XPort Direct is ideal for high-volume product deployments.

- ▶▶ Integrated module with RJ45 featuring dedicated networking SoC
- ▶▶ Complete TCP/IP protocol stack and Windows deployment software
- ▶▶ Up to 230 Kbps data rate
- ▶▶ Compact low profile (>12 mm)
- ▶▶ 2 x 12 pin, 2 mm headers
- ▶▶ Two GPIO pins

XPort Direct+™



The XPort Direct+ embedded device server module delivers high-performance Ethernet connectivity and web server capabilities at extremely affordable pricing. This ready-to-use solution is built on the same time-tested and market-proven technology offered in the successful XPort. With its low cost and powerful functionality, XPort Direct+ is ideal for high-volume product deployments where inexpensive, limited functionality microcontrollers traditionally create a barrier to network-enablement.

- ▶▶ 10Base-T/100Base-TX auto-sensing Ethernet connectivity
- ▶▶ Programmable e-mail alerts
- ▶▶ Embedded HTTP compliant web server
- ▶▶ Optional RS-485 support
- ▶▶ Optional 256-bit AES (Rijndael) encryption
- ▶▶ Extremely compact 40x16x13 mm
- ▶▶ Extensive networking protocol support including TCP/IP
- ▶▶ 512K Flash memory

A SMOOTH PATH FROM ETHERNET TO WiFi

WiPORT NR – PIN-COMPATIBLE ETHERNET/WiFi DEVICE SERVER MODULE

WiPort NR



Pin-compatible
WiFi version, pg. 8



With the same form factor and pinout of the 802.11 b/g wireless WiPort®, the WiPort NR is a flexible solution enabling wired/wireless layout compatibility on a single PCB design. It offers a seamless migration path from Ethernet connectivity to wireless networking.

- ▶▶ Two serial ports
- ▶▶ EMC/EMI-compliant
- ▶▶ 2 MB Flash memory
- ▶▶ Optional 256-bit AES (Rijndael) encryption
- ▶▶ 11 GPIO pins
- ▶▶ Complete TCP/IP protocol stack and Windows deployment software
- ▶▶ Power over Ethernet (PoE) capable with external circuitry

Connect... Communicate... Control...

ADVANCED ETHERNET NETWORKING CAPABILITIES XPORT AR – NETWORKING PROCESSOR MODULE



XPort® Architect™ (AR) delivers an enterprise-grade, programmable device computing and networking platform. Featuring Evolution OS®, our powerful embedded Networking Operating System, XPort AR features an extensible, open standards-based software platform for managing devices and delivering information over the enterprise network.

- ▶▶ “Data center-grade” security, including SSL and SSH
- ▶▶ True IEEE 802.3af-compliant pass-through Power over Ethernet (PoE) using both Ethernet pairs
- ▶▶ XML and RSS support



XPort AR is essentially an “IP computer” built into the device, giving it the ability to gather, process and communicate information and then take the appropriate preprogrammed actions. It offers:

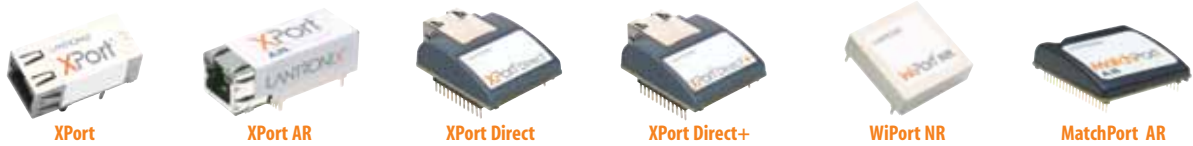
- ▶▶ 120 MHz DSTni® processor
- ▶▶ 230 Kbps serial data rate
- ▶▶ 10/100 Base-T/TX Ethernet connection
- ▶▶ I2C, SPI, USB and CAN Bus interfaces available
- ▶▶ Up to three serial ports and 13 configurable GPIO pins
- ▶▶ 1.25 MB of SRAM/4 MB Flash memory
- ▶▶ Embedded web server and network protocol stack

EMBEDDED MODULES CAPABILITY – ETHERNET AND WiFi

Features	XPort Direct	XPort Direct +	XPort	XPort AR	WiPort b/g	WiPort NR	MatchPort b/g	MatchPort b/g Pro	MatchPort AR
TCP / UDP client-server	•	•	•	•	•	•	•	•	•
Telnet	•	•	•	•	•	•	•	•	•
DHCP, BOOTP & AUTO IP	•	•	•	•	•	•	•	•	•
TFTP	•	•	•	•	•	•	•	•	•
FTP				•				•	•
PPP (*Custom)		*	*	•	*	*	*	•	•
SNMP		•	•	•	•	•	•	•	•
Web Server (*CGI Custom)		*	*	•	*	*	*	•	•
CGI & AJAX Web Server Capability				•				•	•
SSL / SSH				•				•	•
Java Support		•	•	•	•	•	•	•	•
AES encryption (*Optional)		*	*	•	*	*	*	*	•
Software Development Kit (*CPK)		•	•	•	•	•	•	•	•
Web Manager (for configuration)		•	•	•	•	•	•	•	•
Email Client		•	•	•	•	•	•	•	•

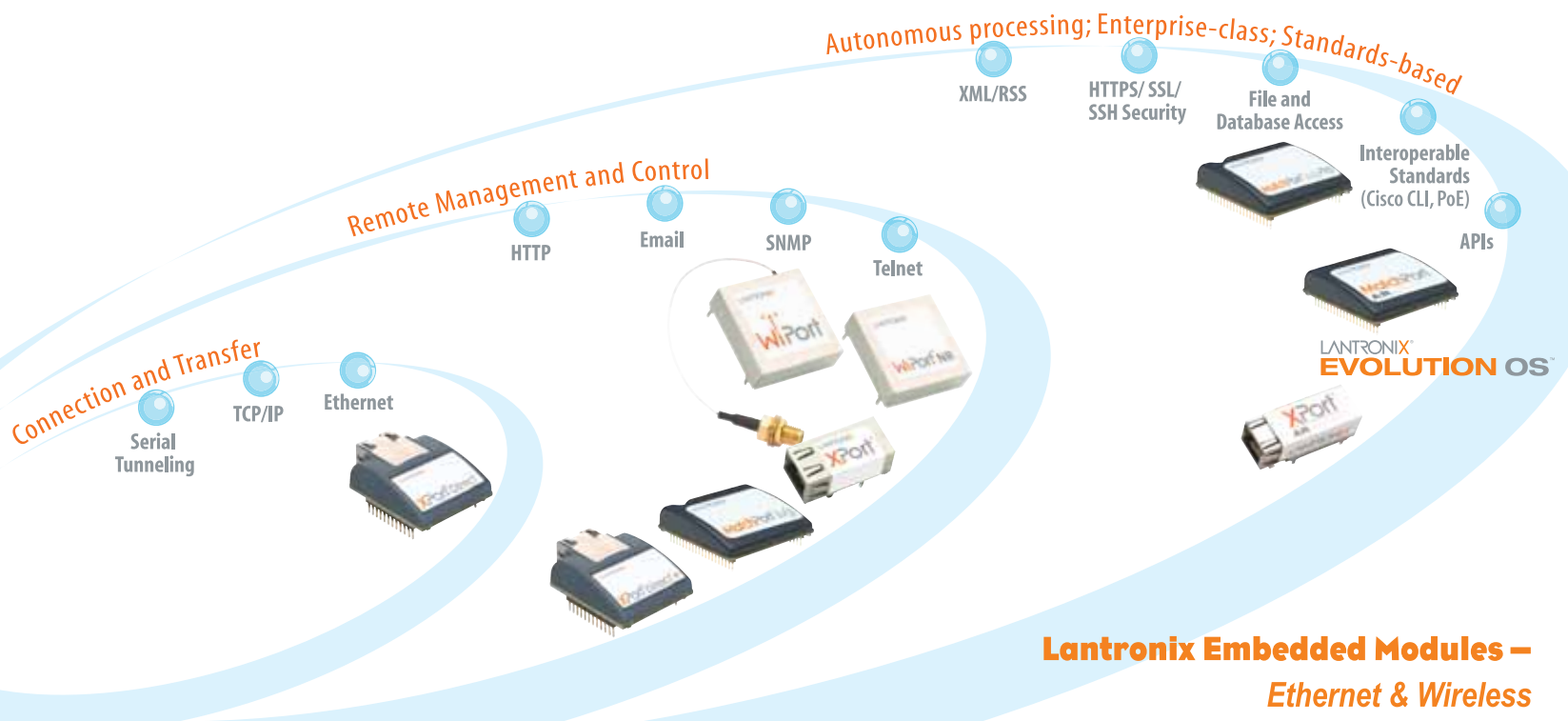
EMBEDDED ETHERNET MODULES

EMBEDDED ETHERNET MODULES



	XPort	XPort AR	XPort Direct	XPort Direct+	WiPort NR	MatchPort AR
Serial Interface / # Ports	CMOS (1)	CMOS (1)	CMOS (1)	CMOS (1)	CMOS (1)	CMOS (3)
Network Interface	10/100BASE-TX	10/100BASE-TX	10/100BASE-TX	10/100BASE-TX	10/100BASE-TX (USING EXTERNAL RJ45 JACK)	10/100BASE-TX (USING EXTERNAL RJ45 JACK)
RJ45 Connector	•	•	•	•		
256-bit AES encryption*	•	• AND SSH/SSL		•	•	• AND SSH/SSL
Data Rate (Kbps), Max. Serial	921	230	230	921	921	230
Flash Memory	512 KB	4 MB	128 KB	2048 KB	4 MB	
SRAM/SDRAM Memory	256 KB SRAM	1.25 MB SRAM	128 KB SRAM	256 KB SRAM	256 KB SRAM	8 MB SDRAM
Required Input Power (VDC)	3.3	3.3	3.3	3.3	3.3	
RS485/422 Interface Support	•		•	•	•	•
Dimensions (L x W x H)	33.9 x 16.25 x 13.5 MM 1.33 x .64 x .53 IN	45.7 x 16.51 x 17.8 MM 1.80 x .65 x .70 IN	43.3 x 31.75 x 11.76 MM .702 x 1.25 x .463 IN	43.3 x 31.75 x 11.76 MM .702 x 1.25 x .463 IN	33.9 x 32.5 x 10.3 MM 1.335 x 1.28 x 0.4 IN	44.4 x 44.4 x 10.4 MM 1.75 x 1.75 x .41 IN

*NIST-certified implementation of Advanced Encryption Standards as specified by FIPS-197.



Lantronix Embedded Modules – Ethernet & Wireless

Connect... Communicate... Control...

POWERFUL, DEPLOYMENT READY-DEVICE NETWORKING COPROCESSORS XCHIP FAMILY

The DeviceLinx™ XChip™ SoC family of networking coprocessor system-on-chips enables OEMs to design-in Ethernet LAN connectivity and embedded web server capability into virtually any device with a serial interface on its host microcontroller. Simply connect the host controller's serial interface to the XChip, load the included application and network protocol firmware in an external Flash chip, add an RJ45 jack and magnetics... and your design is fully Ethernet-enabled!



This highly integrated x86-class SOC processor family includes a built in Ethernet MAC and 10-100 PHY, 256KB zero wait-state SRAM, up to 11 GPIOs and high performance serial UARTs in a compact 12 X 12 mm 184 BGA package.

The XChip delivers the same functionality as the best selling XPort module, while the XChip Direct is equivalent to the XPort Direct. XChip AR includes the more powerful and highly secure Evolution OS operating system. This chip family is ideal for high-volume, cost-sensitive or space-constrained networking applications including home automation, entertainment systems, home security, appliances, POS (point-of-sale) terminals, vending machines, industrial refrigeration, commercial lighting and audio/visual equipment. With virtually zero programming required, XChip makes it easy to design in network connectivity and significantly speed OEM time to market.

DeviceLinx™ XChip Direct™ SoC

Device Gateway – SOC Coprocessor
Serial-to-Ethernet connectivity

DeviceLinx™ XChip™ SoC

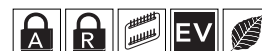
Device Server SOC Coprocessor –
Built-in web server; optional AES encryption

DeviceLinx™ XChip™ AR SoC

Programmable Device Server SOC Coprocessor –
Advanced web server capabilities and security

The most robust device networking chips available on the market, these application-ready SoCs includes feature-rich application and network firmware. The royalty-free binary software suite includes (depending on the chip):

- » Proven serial-to-Ethernet LAN data tunneling application
- » Feature-rich network stack including TCP/IP, UDP, BootP, DHCP and AutoIP
- » Variety of configurable options for serial-to-Ethernet tunneling
 - » Baud rate
 - » Flow control
 - » Port number
 - » Data packing control intervals
 - » Inactivity timeout
 - » MTU size
- » Support for up to 12 simultaneous TCP or UDP sessions
- » Robust web server supporting up to three simultaneous web sessions (XChip and XChip AR)
- » Email triggering on in-band serial data patterns or configurable pin inputs to provide real-time device status information
- » Optional 256-bit AES (Rijndael) end-to-end encryption



To speed prototype build and time to production, XChip models come complete with a compact, 4-layer reference design (6 layers on XChip AR) optimized for cost and performance. The design package includes schematic and assembly diagrams, Gerber files, PADS PCB design files and fabrication drawing.

SYSTEM-ON-CHIP SOLUTIONS

BOARD-LEVEL ETHERNET DEVICE SERVERS

Lantronix compact board-level device servers are designed to be integrated onto the circuit boards of electronic devices like factory machinery, security systems and medical equipment. These high-configurable solutions incorporate fast and reliable networking technology for a very cost-effective alternative to dedicated computer systems and excessive cabling. Since they are easy to snap in and snap out, they provide a high level of post-manufacturing and in-field flexibility. And best of all, they can be easily adapted into your existing design.

EASY-TO-IMPLEMENT ETHERNET MICRO DEVICE SERVERS



The compact Micro and Micro100 are ideal for quickly embedding proven Ethernet connectivity. The Micro100 offers the same small footprint, features and proven performance as the Micro, with 10/100Base-T connection speed.

- ▶ Flexible, field proven IP protocol stack
- ▶ Configurable Ethernet option for the OEM
- ▶ TTL serial interface
- ▶ Internal web server, serial, Telnet and SNMP management support
- ▶ 5 VDC regulated input power
- ▶ Two serial ports
- ▶ Custom protocol support

OUR BEST-SELLING PRODUCT – ON A BOARD UDS1100-B DEVICE SERVER



The powerful UDS1100-B can network-enable nearly any electronic device, allowing it to be remotely monitored, managed and controlled over the Internet or shared network.

- ▶ Flexible and well-supported IP protocol stack
- ▶ DB25 port for RS-232, RS-422 or RS-485
- ▶ Power through serial or barrel connector
- ▶ Industrial protocols are available
- ▶ Flash ROM for easy software updates
- ▶ Ethernet RJ45 10/100Base-T connector
- ▶ 2 MB of Flash memory
- ▶ -40° to 70°C operating temperature

BOARD-LEVEL PRODUCTS



	Micro / Micro100	Micro / Micro100	UDS1100-B
Serial Interface	TTL	TTL	RS-232, RS-422, RS-485
Network Interface	10BASE-T	10/100BASE-T	10/100BASE-T
RJ45 Connector	●*	●*	●
256-bit AES encryption**		●*	
Data Rate (Kbps) Max. Serial	115	230	230
Flash Memory	512 KB	512 KB	2 MB
Required Input Power (VDC)	5	5	9-30 OR 3.3
Dimensions (L x W x H)	49 x 40 MM 1.93 x 1.57 IN	49 x 40 MM 1.93 x 1.57 IN	84 x 58 x 14 MM 3.3 x 2.3 x 0.55 IN

*Available with certain models or as an option.

**NIST-certified implementation of Advanced Encryption Standards as specified by FIPS-197.

All units ship with: Com Port Redirector software, Lantronix DeviceInstaller GUI, Serial login, SNMP, Telnet login, Internet HTTP server. IAP and Modbus versions are available.

DeviceLinx™

BOARD-LEVEL ETHERNET

Connect... Communicate... Control...

WIRELESS DEVICE NETWORKING SOLUTIONS

There are many advantages to wirelessly network-enabling your equipment. Wireless communication provides a whole new level of flexibility and mobility. Lantronix has a complete line of wireless device servers for every application. These versatile products can network difficult-to-reach or inaccessible equipment, and save time and money by avoiding long cable runs.

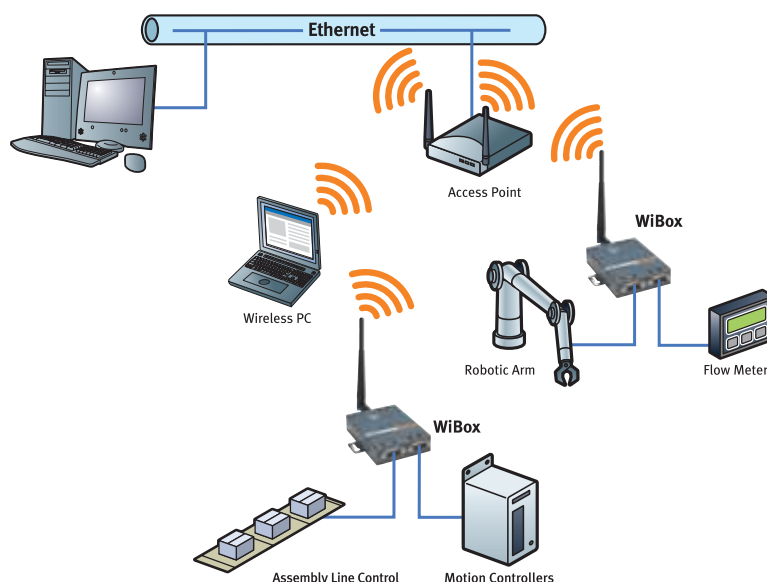
PUT EQUIPMENT ON THE WiFi NETWORK IN MINUTES

WiBox – WIRELESS DEVICE SERVER



WiBox[®] is a cost-effective way to add the mobility of wireless connectivity to your existing equipment! Small enough to fit almost anywhere, WiBox networks virtually any device with a serial port in a matter of minutes. Location becomes irrelevant, and the time and money saved on difficult cable runs can be significant. WiBox features 802.11 b/g-to-serial communication, two DB9 serial ports, RS-232, RS-422 and RS-485 support, and 128-bit WEP, WPA and WPA2-personal encryption.

- ▶ Ethernet or wireless communication
- ▶ Ethernet-to-wireless bridging
- ▶ Broad 9-30 VDC input power range
- ▶ -40° to 70°C operating temperature range
- ▶ Compatible with standard 802.11 b/g access points
- ▶ Bulletproof security with 128-bit WEP and WPA-PSK, TKIP; 802.11i/WPA2-PSK
- ▶ 256-bit AES (Rijndael) end-to-end encryption



WIRELESS DEVICE SERVERS

EXPAND YOUR ETHERNET NETWORK VIA WiFi

WiSPAN – WIRELESS BRIDGE



WiSpan™



The WiSpan™ wireless bridge gives virtually any piece of electronic equipment with an Ethernet port industry-standard wireless 802.11 b/g connectivity. WiSpan simplifies connectivity to devices when mobility is required and Ethernet cabling is impractical or expensive. Its built-in IEEE 802.11i-compliant security ensures data privacy and integrity. It features a rugged design and wide temperature range to easily handle harsh environments.

- ▶ Fully developed TCP/IP network stack and OS
- ▶ Bulletproof security with 128-bit WEP and WPA-PSK, TKIP; 802.11i/WPA2-PSK
- ▶ FCC Class B, UL and EN EMC safety-compliant
- ▶ -40° to 70°C operating temperature range

802.11 B/G WIRELESS PRODUCTS



MatchPort b/g Pro



MatchPort b/g



WiPort



WiBox



WiSpan

Serial Interface / # Ports	CMOS (0)	CMOS (0)	CMOS (2)	RS-232, RS-422, RS-485 (2)	RS-232, RS-422, RS-485 (1)
Security	WEP, WPA-PSK, TKIP, 802.11i/WPA2	WEP, WPA-PSK, TKIP, 802.11i/WPA2	WEP, WPA-PSK, TKIP, 802.11i/WPA2	WEP, WPA-PSK, TKIP, 802.11i/WPA2	WEP, WPA-PSK, TKIP
Connector				DB9, MALE (2)	DB9, MALE (1)
Network Interface	802.11 b/g, 10/100BASE-T	802.11 b/g, 10/100BASE-T	802.11 b/g, 10/100BASE-T	802.11 b/g, 10/100BASE-T	802.11 b/g, 10/100BASE-T
RJ45 Connector	EXTERNAL	EXTERNAL	EXTERNAL	●	●
256-bit AES encryption*	● (OPTION)	● (OPTION)	● (OPTION)	●	
Data Rate (Kbps), Max. Serial	921	921	921	921	921
Flash Memory	2 MB	2 MB	2 MB STANDARD 4 MB OPTIONAL	2 MB STANDARD 4 MB OPTIONAL	2 MB
Required Input Power (VDC)	3.3	3.3	3.3	9-30	9-30
SRAM:	256 KB	256 KB	256 KB	256 KB	256 KB
RS485/422 Interface Support	●	●	●	●	●
Dimensions (L x W x H)	44.4 x 44.4 x 10.4 MM 1.75 x 1.75 x .41 IN	44.4 x 44.4 x 10.4 MM 1.75 x 1.75 x .41 IN	33.9 x 32.5 x 10.3 MM 1.335 x 1.28 x 0.4 IN	9.5 x 7.2 x 13.97 CM 3.7 x 2.8 x 5.5 IN	9.5 x 7.2 x 13.97 CM 3.7 x 2.8 x 5.5 IN

*NIST-certified implementation of Advanced Encryption Standards as specified by FIPS-197.

All units ship with: Com Port Redirector software, Lantronix DeviceInstaller GUI, Serial login, SNMP, Telnet login, Internet HTTP server.

Connect... Communicate... Control...

EXTERNAL ETHERNET DEVICE SERVERS FOR M2M NETWORKING

More than likely, you have devices that aren't currently networked, but could benefit your business if they were. Should you spend thousands or even millions of dollars to replace aging but perfectly capable equipment? Is it worth undergoing the headaches of implementation or possible recertification? Probably not. That's where Lantronix device servers come in.

Whether it's new or existing equipment, a Lantronix external device server can put virtually any device with serial connectivity on the network in a matter of minutes. A device server can take an isolated device like a bedside medical analyzer or industrial refrigeration unit and turn it into a fully functioning component of your network. Previously non-networked devices will enjoy increased lifespan and can now be integrated with newer networked systems. Advanced device networking solutions enable you to upgrade your communication and functionality while preserving your investment in your present equipment. And the costs of separate wiring and modem setups are eliminated.

TRULY AUTOMATED CONTROL OF REMOTE EQUIPMENT *INTELLIBOX*



EventTrak™

Powered by Lantronix EventTrak™ technology, the revolutionary IntelliBox®-I/O 2100 connects equipment to an IP network and proactively monitors events at specified intervals. When an event occurs, the rugged IntelliBox automatically sends predetermined, user-defined command(s) to the equipment, causing it to take appropriate corrective actions – without any user intervention. IntelliBox can send email notification that the event was detected and handled accordingly.

- ▶ Monitors network connections proactively notifies users to reduce downtime
- ▶ Proactively monitors attached equipment
- ▶ Takes automatic actions based on user-defined settings
- ▶ Automated reporting and notification via email or RSS
- ▶ Secure remote access and control of digital I/O and relays
- ▶ 10/100 Ethernet interface with 1.5 Kv isolation (802.3 standard)

Featuring Lantronix Evolution OS®, our powerful real-time networking operating system, IntelliBox provides an unprecedented level of intelligence and security to networked equipment. With this powerful solution, just about any piece of equipment with a serial port can become a fully secure member of the corporate network that can be accessed and managed remotely from virtually anywhere.

- ▶ Robust “data center-grade” security, including SSL/SSH, AES, 3DES, ARC4 encryption
- ▶ Fully programmable device computing platform based on corporate IT standards – supports Cisco-like CLI, XML and RSS

EXTERNAL ETHERNET DEVICE SERVERS

ENTERPRISE-CLASS NETWORKING ANYWHERE

EDS FAMILY – TERMINAL AND MULTI-PORT DEVICE SERVERS

EDS is a line of hybrid Ethernet terminal and multi-port device servers. Ideal for networking equipment in branch offices or environments where multiple pieces of equipment need to be connected, they are designed to remotely access and manage medical equipment, kiosks, POS/retail terminals, security equipment and much more.

EDS is also the first external device/terminal server to deliver an enterprise-grade, programmable device computing and networking platform for integrating ‘edge’ equipment into the enterprise network.

Featuring Lantronix Evolution OS®, our powerful real-time networking operating system, EDS provides an unprecedented level of intelligence and security to networked equipment. With this powerful solution, just about any piece of equipment with a serial port can become a fully secure member of the corporate network that can be accessed and managed remotely from virtually anywhere.



- ▶▶ Robust “data center-grade” security, including SSL/SSH, AES, 3DES, ARC4 encryption
- ▶▶ Fully programmable device computing platform based on corporate IT standards – supports Cisco-like CLI, XML and RSS
- ▶▶ 4, 8, 16 and 32-port models
- ▶▶ True IEEE 802.3af-compliant PoE (4100 only)



EXTERNAL ETHERNET DEVICE SERVERS



Serial Interface	RS-232, RS-422, RS-485	RS-232, RS-422, RS-485	RS-232, RS-422, RS-485	RS-232, RS-422, RS-485	RS-232, RS-422, RS-485	RS-232, RS-422, RS-485 / RS-232	USB 2.0 (HIGH) 480 Mbps	USB 2.0 (FULL) 12Mbps	RS-232	RS-232, RS-422	RS-232, RS-422, RS-485
Connector/ # Ports	ONE RELAY Two I/O	DB9, MALE, (4)	8/16/32 RJ45	DB25, FEMALE, DCE / (1)	DB9, MALE, DTE / (2)	DB25, FEMALE, DCE (1) OR DB9, MALE, DTE / (2)	Two USB	Four USB	DB25, MALE, DTE / (1)	DB9, MALE, DTE / (4)	DB25, FEMALE, DCE / (1), DB9, MALE, DTE / (1)
Network Interface	10/100BASE-T	10/100BASE-T	10/100BASE-T	10/100BASE-T	10/100BASE-T	10/100BASE-T	10/100BASE-T	10/100BASE-T	10/100BASE-T	10/100BASE-T	10BASE-T 10BASE-FL
Encryption*	*AES, SSH, SSL, MD5 SHA-1, 3DES, ARC 4	*AES, SSH, SSL, MD5 SHA-1, 3DES, ARC 4	*AES, SSH, SSL, MD5 SHA-1, 3DES, ARC 4								
Data Rate (bps)	300-230400	300-230400	300-230400	300-921600	300-921600	300-230400			300-230400	300-230400	300-115200
Flash Memory	4 MB	8 MB	8 MB	2 MB	2 MB	2 MB/1 MB			1 MB	2 MB	512 KB
Required Input Power (VDC)	9-30 OR 9-24 VAC	PoE, 9-30 (BARREL) 42-56 (SCREW TERMINAL)	100-240 VAC	9-30	9-30	9-30	5	5	5	9-30	9-30
Max. Current Req. (Watts)	2.3	4	20	1.5	2	1 / 2	13	13	4	18	9
Dimensions (L x W x H)	11.5 x 10.9 x 2.3 CM 4.54 x 4.3 x 0.9 IN	12.7 x 17.7 x 3.8 CM 5 x 6.95 x 1.5 IN	30.5 x 43.8 x 4.4 CM 12 x 17.25 x 1.75 IN	9.0 x 6.4 x 2.3 CM 3.5 x 2.5 x 0.9 IN	9.5 x 7.2 x 2.3 CM 3.7 x 2.8 x 0.9 IN	9.0 x 6.4 x 2.3 CM 3.5 x 2.5 x 0.9 IN / 9.5 x 7.2 x 2.3 CM 3.7 x 2.8 x 0.9 IN	10.2 x 7.2 x 2.3 CM 4 x 2.9 x 1.0 IN	13.2 x 8.1 x 2.5 CM 5.2 x 3.2 x 1.0 IN	9.0 x 6.4 x 2.3 CM 3.5 x 2.5 x 0.9 IN	13.9 x 23.6 x 3.3 CM 5.5 x 9.3 x 1.3 IN	18.0 x 15.5 x 4.0 CM 7.0 x 6.1 x 1.57 IN

*NIST-certified implementation of Advanced Encryption Standards as specified by FIPS-197.

With the exception of UBox, all units ship with: Configuration utility software, Serial login, SNMP, Telnet login, Internet HTTP server.

Connect... Communicate... Control...

QUICK, EASY AND SECURE NETWORKING SECUREBOX FAMILY



Security and privacy are critical for virtually every business, and especially in the government sector and medical and financial fields. Where data integrity and protection are paramount, Lantronix offers SecureBox® SDS device servers. SecureBox incorporates AES (Advanced Encryption Standards). Lantronix was the first device server company to offer a National Institute of Standards and Technology (NIST)-certified implementation of AES as specified by Federal Information Processing Standards (FIPS) 197.

- ▶▶ 128-256-bit AES (Rijndael) encryption
- ▶▶ RS-232 DCE serial port pinned the same as modem for easy connection
- ▶▶ 10/100 Ethernet interface
- ▶▶ Supported by Lantronix Secure Com Port Redirector™ software

VALUE AND PERFORMANCE IN OUR BEST-SELLING DEVICE SERVERS UDS FAMILY



With UDS device servers, virtually any piece of equipment with a serial port can be added to an Ethernet network in a matter of minutes! In Modem Emulation mode, the UDS is used to replace dial-up modems. The unit accepts modem AT commands on the serial port. It then establishes a network connection to the end device, leveraging network connections and bandwidth to eliminate dedicated modems and phone lines.

- ▶▶ 1- and 2-port models
- ▶▶ 2 MB of Flash
- ▶▶ Software-selectable between RS-232, RS-422 RS-485
- ▶▶ 300-921600 bps serial port speed
- ▶▶ 15 Kv protection (galvanic ESD protection)
- ▶▶ Wide range of protocols supported – ARP, UDP, TCP, ICMP, Telnet, TFTP, AutoIP, DHCP, HTTP, SNMP, TCP, UDP and Telnet
- ▶▶ PoE models available
- ▶▶ Industrial versions available (see page 22)

EXTERNAL ETHERNET DEVICES

FIBEROPTIC CONNECTIVITY

CoBox-FL



The CoBox-FL enables electronic devices to connect to an Ethernet network over a fiberoptic medium. It provides both ST Multi-mode Fiber (10Base-FL) and RJ45 (10Base-T) Ethernet interfaces. RS-232 and RS-485 serial connections are accomplished via DB9 and DB25 serial ports. CoBox-FL ideal for applications that require long cable runs, EMI/RFI immunity, and the inherent electrical isolation offered by optical fiber.

- ▶▶ RJ45 (10Base-T) and ST Multi-mode Fiber (10Base-FL) Ethernet interfaces
- ▶▶ 128-bit encryption
- ▶▶ Universal 100 VAC to 240 VAC power adapter included (see page 22)

FEATURE-RICH COMMERCIAL DEVICE SERVERS

MSS FAMILY



The robust MSS100 and MSS4 offer a feature-rich, multi-tasking operating system and a 32-bit processor for demanding, memory-intensive applications.

- ▶▶ 10Base-T/100Base-TX fast Ethernet interface
- ▶▶ Host list for multi-host or sequential-host connectivity
- ▶▶ Lantronix Software Development Kit for customization
- ▶▶ 230 Kbps serial interface
- ▶▶ RoHS-compliant (MSS100)

NETWORK YOUR USB PERIPHERAL DEVICES

UBOX FAMILY



UBox® removes distance limitations by putting USB peripherals on Ethernet networks. USB devices can be individually dedicated or shared over the network, maximizing your hardware investment. With UBox, users can network devices such as storage subsystems, security ID devices, card readers, barcode scanners, multifunction printers and even PDAs easily and without distance limitations.

- ▶▶ 10/100 Fast Ethernet
- ▶▶ Ethernet-enabled USB host controller
- ▶▶ 4 USB full-speed ports (4100)
- ▶▶ 2 USB high-speed ports (2100)
- ▶▶ Supports DHCP, UDP, Static IP or Zeroconfig IP addressing
- ▶▶ Isochronous audio (4100)
- ▶▶ Isochronous audio and video (2100)

Connect... Communicate... Control...

INDUSTRIAL DEVICE SERVERS

Lantronix offers a full range of industrial-strength external device servers designed for use with manufacturing or assembly equipment such as programmable logic controllers (PLCs), motion controllers, barcode scanners and power monitoring equipment at manufacturing sites, automated distribution centers and refinery plants.

RUGGED, DIN-RAIL MOUNT ETHERNET AND WIFI XPRESS-DR+ AND XPRESS-DR+ WIRELESS



XPress-DR+™ DIN-rail mount device servers are all you need to put your industrial equipment on an Ethernet or WiFi network quickly and easily. With two serial ports and two 10/100 Ethernet switch ports, the XPress-DR+ family enables Ethernet cascading from one network drop. Using SwitchPort+™, Lantronix onboard Ethernet switching technology, XPress-DR+ expands network connectivity by allowing multiple devices to connect to a single network backbone connection. This unique feature saves money by eliminating cable runs and simplifies adding or moving a network device.

- ▶ Ethernet and 802.11 b/g
- ▶ Modbus TCP, Modbus ASCII/RTU and DF1 Multi-Master protocol support
- ▶ 15 Kv ESD serial port protection
- ▶ 2.5 Kv Ethernet isolation
- ▶ Wide -40° to 70°C operating temperature range
- ▶ 9-30 VDC and 9-24 VAC power input range
- ▶ RS-232, RS-422 or RS-485 screw terminal connection with a configurable interface



SwitchPort+[™]
Ethernet Switching Technology



XPress INDUSTRIAL DEVICE SERVERS

Our XPress family of industrial device servers is equipped with isolated serial and Ethernet ports, ruggedized casings, and screw terminal connectors for serial and power. They support industrial protocols such as Modbus TCP, Modbus ASCII, Modbus RTU and DF1, and are FM-approved for hazardous locations Class 1, Div 2.

INDUSTRIAL DEVICE SERVERS

XPress-DR and XPress-DR-IAP



The XPress-DR and XPress-DR-IAP (industrial automation protocol) device servers enable virtually any serial device to be connected to a new or existing Ethernet network. Packaged in a rugged DIN-rail mount case and featuring 2000V galvanic isolation, 1500V Ethernet isolation, a wide 0° to 60°C operating range, and a 9-30VDC/9-24VAC power input, the XPress-DR and XPress-DR-IAP are ideal for any industrial application. The XPress-DR-IAP installable communication drivers allow specific support for various industrial communication protocols, so equipment that previously allowed only one connection can now support multiple connections simultaneously.

- ▶ Configurable serial interface supports RS-232, RS-422, or RS-485
- ▶ 10Base-T/100Base-TX Ethernet (RJ45)
- ▶ Isolated serial and Ethernet ports
- ▶ FM-approved for hazardous locations Class I, Div. 2

INDUSTRIAL DEVICE SERVERS


XPress-DR+

XPress-DR+W

XPress-DR/XPress-DR-IAP

CoBox-FL-IAP

UDS1100-IAP

IntelliBox-I/O 2100

	XPress-DR+	XPress-DR+W	XPress-DR/XPress-DR-IAP	CoBox-FL-IAP	UDS1100-IAP	IntelliBox-I/O 2100
Serial Interface	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485
Asynchronous Serial Ports	2	2	1	2	1	2
Connector / Serial Ports	SCREW BLOCK - RS485 / RJ45 - RS232	SCREW BLOCK - RS422/RS485 RJ45 - RS232	SCREW BLOCK / RJ45	DB25, FEMALE, DCE / (1) DB9, MALE, DTE / (1)	DB25, FEMALE, DCE / (1) DB9, MALE, DTE / (1)	SCREW BLOCK 2 SERIAL, 2 I/O, 1 RELAY
Network Interface	10/100BASE-T	10/100BASE-T	10/100BASE-T	10BASE-T/FL	10/100BASE-T	10/100BASE-T
DIN-Rail Mount Case	•	•	•		WITH ADAPTER	WITH ADAPTER
Metal Case				•	•	•
Data Rate (bps)	300-230400	300-230400	300-115200	300-115200	300-230400	300-230400
Flash Memory	2 MB	2 MB	2 MB	512 KB	2 MB	4 MB
Input Power (VDC)	9-30 or 9-24 VAC	9-30 or 9-24 VAC	9-30 or 9-24 VAC	9-30 VDC	9-30 or 9-24 VAC	9-30 or 9-24 VAC
Max Current Req. (Watts)	2.3	2.3	4.2	9	1.5	2.3
Galvanic Isolation	•	•	•			•
FM Class 1 Div 2	•	•	•			•
Temperature Range (Operating)	-40°C to 70° C -40°F to 158°F	-40°C to 70° C -40°F to 158°F	0°C to 60° C 32°F to 140°F	5°C to 50° C 41°F to 122°F	-40°C to 70° C -40°F to 158°F	-40°C to 75° C -40°F to 167°F
Protocol Support	ARP, UDP/IP, TCP/IP, TELNET, ICMP, SNMP, DHCP, BOOTP, TFTP, HTTP, Modbus TCP, Modbus ASCII/RTU, DF1 MULTI-MASTER	ARP, UDP/IP, TCP/IP, TELNET, ICMP, SNMP, DHCP, BOOTP, TFTP, HTTP, Modbus TCP, Modbus ASCII/RTU, DF1 MULTI-MASTER	ARP, UDP/IP, TCP/IP, TELNET, ICMP, SNMP, DHCP, BOOTP, TFTP, HTTP, Modbus TCP, Modbus ASCII/RTU, DF1 MULTI-MASTER	ARP, UDP/IP, TCP/IP, TELNET, ICMP, SNMP, DHCP, BOOTP, TFTP, HTTP, Modbus TCP, Modbus ASCII/RTU, DF1 MULTI-MASTER	ARP, UDP/IP, TCP/IP, TELNET, ICMP, SNMP, DHCP, BOOTP, TFTP, HTTP, Modbus TCP, Modbus ASCII/RTU, DF1 MULTI-MASTER	ARP, UDP/IP, TCP/IP, TELNET, ICMP, SNMP, DHCP, BOOTP, TFTP, Auto IP, SMTP, FTP, DNS TRACEROUTE, HTTP, Modbus TCP Modbus TCP, Modbus ASCII/RTU
Agency Approvals	UL, CSA, FCC, CE, TUV, CTick, VCCI, FM CLASS 1, Div. 2	UL, CSA, FCC, CE, TUV, CTick, VCCI, FM CLASS 1, Div. 2	UL, CSA, TUV, FCC, CE, FM CLASS I, Div. 2	CE, FCC B, TUV, C/UL	CE, FCC B, TUV, C/UL	UL, CSA, FCC, CE, TUV, CTick VCCI, FM CLASS 1, Div. 2
Dimensions (L x W x H)	8.7 x 5.7 x 12.3 CM 3.45 x 2.25 x 4.85 IN	8.7 x 5.7 x 28.5 CM 3.45 x 2.25 x 11.25 IN	6.1 x 3.5 x 8.8 CM 2.4 x 1.4 x 3.5 IN	18.2 x 15.5 x 3.9 CM 7.2 x 6.1 x 1.57 IN	9.0 x 6.4 x 2.3 CM 3.5 x 2.5 x 0.9 IN	11.5 x 10.9 x 2.3 CM 4.54 x 4.3 x 0.9 IN

Connect... Communicate... Control...

INDUSTRIAL ETHERNET SWITCHES – NETWORKING FOR THE DEMANDING INDUSTRIAL ENVIRONMENT

Part of the DeviceLinx family of network-enablement products, XPress-Pro SW series managed and unmanaged Ethernet switches are designed to give you performance you can count on in harsh industrial environments.

Whether they're on the factory floor or in the field, these rugged products provide flawless communication when you need it most. Combined with our industrial device servers, this complete line of dependable and affordable switches delivers a robust industrial device networking solution.



XPress-Pro SW DIN-rail mountable hardened switches offer:

- ▶▶ Compliance with IEC61000-6-2 EMC generic immunity standard
- ▶▶ Full wire-speed forwarding rate
- ▶▶ Alarms for power failure by relay output (8-port models only)
- ▶▶ Fiberoptic interfaces

XPRESS-PRO INDUSTRIAL POWER SUPPLY

Product Description:

30W / 1.5A DIN-rail 24 VDC industrial power supply

Input:

85 to 264 VAC (47 to 63 Hz) or 120 to 370 VDC

Output:

36W, 24 VDC, 0 to 1.5A

Overvoltage Protection:

27.6 to 32.4 Volts

Overload Protection:

105 to 160% rated output power

Protection Type:

Constant current limiting,
recovers automatically

Inrush Current:

15A/115 VAC or 30A/230 VAC



VERSATILITY AND POWER

XPRESS-PRO SW – 94000 SERIES



The XPress-Pro SW 94000 is a managed Ethernet switch, allowing the user to log in and create virtual LANs, configure ports, mirror ports and more. SW 94000 switches deliver the flexibility of eight 10/100 Ethernet ports with an optional fiberoptic interface. XPress-Pro SW 94000 switches can be DIN-rail, shelf or wall mounted, and come with dual redundant power inputs via a terminal block.

- ▶▶ 4K MAC addresses
- ▶▶ 256 KB buffer memory
- ▶▶ Redundant 2A max, 10 to 30 VDC power inputs
- ▶▶ -34° to 74° C (-29° to 165° F) operating temperature range
- ▶▶ UL1604: Class 1, Division 2 classified for use in hazardous locations

PERFORMANCE AND VALUE XPRESS-PRO SW – 92000 SERIES



XPress-Pro SW 92000 switches offer eight 10/100 Ethernet ports and an optional fiberoptic interface. They can be DIN-rail, shelf or wall mounted, and come with dual redundant power inputs to fit applications requiring a tough, environmentally hardened Ethernet switch.

- ▶▶ 2048 MAC addresses
- ▶▶ 768 kilobit buffer memory
- ▶▶ Redundant 2A max, 10 to 48 VDC power inputs
- ▶▶ Wide -34° to 74° C (-29° to 165° F) operating temperature range
- ▶▶ UL1604: Class 1, Division 2 classified for use in hazardous locations

COMPACT AND FAST XPRESS-PRO SW – 52000 SERIES



XPress-Pro SW 52000 compact, fast Ethernet switches are equipped with 5-port 10/100Base-TX or 4-port 10/100Base-TX plus a fiberoptic interface. SW 52000 TX ports auto-negotiate for 10/100 Mbps speed and auto detect full or half-duplex mode. The fiber port on the SW 52012F accommodates multimode SC with a fiberoptic connection between two nodes that can reach up to two kilometers.

- ▶▶ 2048 MAC addresses
- ▶▶ 384 kilobit buffer memory
- ▶▶ .1A max, 12 to 48 VDC power input
- ▶▶ -10° to 60° C (14° to 140° F) operating temperature range

INDUSTRIAL SWITCHES



	52000	92000	94000
Typical Distance*	2 Km	2 Km	2 Km
Nominal Wavelength*	1310 NM	1310 NM	1310 NM
Cable Type*	62.5/125 MM	62.5/125 MM	62.5/125 MM
Optical Budget*	15 dB	15 dB	15 dB
Serial Interface	5-PORT 10/100BASE-TX OR 4-PORT 10/100BASE-TX PLUS 1-PORT 100BASE-FX	8-PORT 10/100BASE-TX, PLUS 1-PORT 100BASE-FX (OPTIONAL)	8-PORT 10/100BASE-TX, PLUS 1-PORT 100BASE-FX (OPTIONAL)
Forward and Filtering Rate	14,880 PPS FOR 10 MBPS 148,810 PPS FOR 100 MBPS	14,880 PPS FOR 10 MBPS 148,810 PPS FOR 100MBPS	14,880 PPS FOR 10 MBPS 148,810 PPS FOR 100 MBPS
Address Table Size	2048 MAC ADDRESSES	2048 MAC ADDRESSES	4K MAC ADDRESSES
Latency	LESS THAN 5.1 µS	LESS THAN 7.1 µS	LESS THAN 9.6 µS
Reverse Polarity Protection	N/A	N/A	Yes
Network Interface	10/100 MBPS FULL/HALF-DUPLEX, AUTO NEGOTIATION, AUTO MDI/MDIX	10/100 MBPS FULL/HALF-DUPLEX, AUTO NEGOTIATION, AUTO MDI/MDIX	10/100 MBPS FULL/HALF-DUPLEX, AUTO NEGOTIATION, AUTO MDI/MDIX
LED Indicators	PER UNIT: POWER STATUS, PER PORT: 10/100TX, 100FX: LINK/ACTIVITY (GREEN), SPEED (YELLOW)	PER UNIT: POWER STATUS (POWER 1, POWER 2), PER PORT: 10/100TX, 100FX: LINK/ACTIVITY (GREEN), SPEED (YELLOW), FAULT (RED)	PER UNIT: POWER STATUS (POWER 1, POWER 2), PER PORT: 10/100TX, 100FX: LINK/ACTIVITY (GREEN), SPEED (YELLOW)
Management	N/A	N/A	RS-232 CONSOLE, TELNET, SNMP V1 & V2, RMON, WEB BROWSER, TFTP
Alarm Contact	N/A	ONE RELAY OUTPUT WITH CURRENT 1A @ 24 VDC	ONE RELAY OUTPUT WITH CURRENT 1A @ 24 VDC
Standards	IEEE802.3 10BASE-T, IEEE802.3u 100 BASE-TX/100BASE-FX, IEEE802.3X	IEEE802.3 10BASE-T, IEEE802.3u 100 BASE-TX/100BASE-FX, IEEE802.3X	IEEE802.3 10BASE-T, IEEE802.3u 100 BASE-TX/100BASE-FX IEEE802.3x, IEEE802.1Q, IEEE802.1P, IEEE802.1W
Power	INPUT VOLTAGE: 12 TO 48 VDC INPUT CURRENT: 0.1A MAX. POWER CONSUMPTION: 2.4W MAX.	INPUT VOLTAGE: 10 TO 48 VDC INPUT CURRENT: 1.5A MAX. POWER CONSUMPTION: 24 VDC @ 0.55A, 18.48 W MAX.	INPUT VOLTAGE: 10 TO 30 VDC INPUT CURRENT: 2A MAX. POWER CONSUMPTION: 24 VDC @ 0.77A, 18.48 W MAX.
Dimensions (L x W x H)	7.0 x 2.51 x 10.9 CM 2.76 x .99 x 4.33 IN	10.9 x 5.0 x 13.5 CM 4.33 x 1.97 x 5.35 IN	12.4 x 5.0 x 13.4 CM 4.92 x 1.97 x 5.31 IN

*Fiber

Connect... Communicate... Control...

THE SOFTWARE BEHIND THE DEVICE

The power behind Lantronix device networking is our software technology. Nearly 20 years of experience in network-enabling equipment is built into our robust TCP/IP stack, bulletproof security and diverse applications. Lantronix device servers include a fully integrated, hardened stack that is resilient to attack and includes support for PPP, HTTP, CGI, SNMP and FTP/TFTP.

EVOLUTION OS

ADVANCED NETWORK OPERATING SYSTEM

Our more powerful device servers include the Evolution OS® operating system. Using industry-standard tools for configuration, communication and control, it provides a great deal of power, flexibility and advanced security features. As companies are increasingly integrating “edge” devices into the corporate network, it is important that the tools, technology and architecture used to network those edge devices meet current data center equipment standards. Evolution OS addresses these needs with open standards, extensible technologies and enterprise-grade networking security.

CISCO-LIKE CLI

Evolution OS uses a Cisco-like command line interface (CLI) with syntax that is very similar to that used by data center equipment such as routers and hubs.

XML-BASED ARCHITECTURE AND DEVICE CONTROL

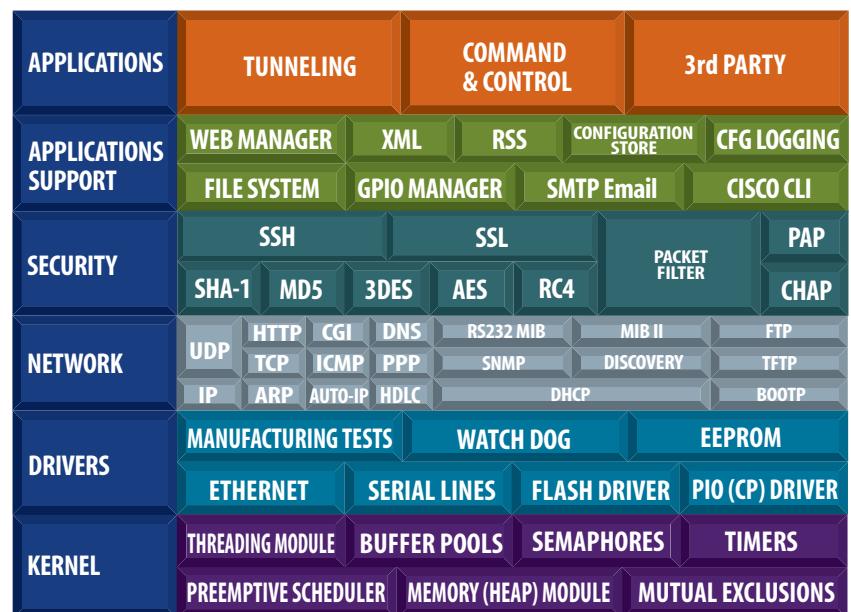
A fundamental building block for the future growth of M2M networks, XML is a standard tool for web services, data transfer and rich content management that encapsulates data into a text-based format. Evolution OS uses XML-based configuration and setup records to make device configuration transparent and easy to edit with a standard text or XML editor.

RSS

Evolution OS uses RSS to stream and manage on-line content. RSS support enables users to configure the device server to automatically send back real-time device information over the network to a database. More powerful than simple email alerts, RSS uses XML as an underlying transport and adds intelligence to the networked device while not taxing already overloaded email systems. Evolution OS also supports standard SMTP email.



Evolution OS Architecture



ENTERPRISE-GRADE SECURITY

Without the need to disable any features or functionality, the hardened Evolution OS provides the highest level of security possible. This data center-grade protection ensures that each device on the M2M network carries the same level of security as traditional IT networking equipment in the corporate data center.

With built-in SSH and SSL, Evolution OS maintains robust defenses to hostile Internet attacks such as denial of service (DoS) and port mapping that can be used to take down the network. And device servers with this operating system cannot be used to bring down other devices on the network. SSH includes robust key management algorithms that:

- ▶ Verify that the data received came from the proper source
- ▶ Validate that the data transferred from the source over the network is non-changed when it arrives at its destination (shared secret and hashing)
- ▶ Provide the ability to run popular M2M protocols over a secure SSH connection

Evolution OS supports a variety of popular cipher technologies including AES, 3DES and RC4 and hashing algorithms such as SHA-1 and MD5. Additionally, SSL ensures secure web-based communications.

EVOLUTION OS SOFTWARE DEVELOPERS KIT

The Evolution OS® Software Developers Kit (SDK) provides the ability to create secure, custom applications to run on Evolution OS. Access to a large subset of the operating system's internal Application Programmer's Interface (API) allows programmers to easily enhance much of Evolution's rich feature set for custom applications. Complete documentation is provided in the Evolution OS SDK API reference manual.

EVENTTRAK TECHNOLOGY

EventTrak™

Available on select Lantronix products, EventTrak software enables the device server to query equipment at timed intervals then, depending on the results, take pre-specified action(s). The device server then sends an email notification informing of the situation and the actions taken. Instead of reacting to an event or problem, users are proactively notified that an event occurred and the appropriate response automatically took place.

In some instances, several events should occur before action is taken. EventTrak allows "Chain Definitions" (series of events/actions) to be defined. They can be saved, stored and transferred to other device servers, providing a great deal of flexibility for large-scale deployment.

DEVICELINX PRODUCTS WITH EVOLUTION OS



XCHIP AR



MATCHPORT AR



MATCHPORT b/g Pro



XPORT AR



INTELLIBOX



EDS4100



EDS 8/16/32

SECURITY SOFTWARE SOLUTIONS FOR M2M DEVICE NETWORKING

With the proliferation of information in today's electronic world, businesses and individuals are more concerned than ever about protecting data from unwanted intrusion as it is transferred over a network or the Internet. Lantronix addresses this concern with robust software applications that provide true end-to-end encryption and the highest level of data security available for networked devices.

ENCRYPTION LIBRARY SUITE – *SECURITY FOR OEM SOFTWARE APPLICATIONS*



The need for bulletproof security places an additional burden on software developers to learn and develop applications to communicate with various devices over a network, and then design a means to protect the data to ensure secure communications. The Lantronix Encryption Library Suite provides everything software developers need to quickly add encrypted network connectivity for secure end-to-end communications into their software applications. This capability lets developers concentrate on their core competencies, be more efficient, and create higher-quality software applications.

When linked to the device's software application, the Lantronix DLLs (Dynamic Link Libraries) encrypt data at the application before it travels over the network to a secure device server, which then decrypts the data and sends it over a serial connection to the device. Examples include patient monitoring equipment transmitting critical test results to a laboratory system, or a kiosk sending sensitive financial data to a central database. The Encryption Library Suite includes the DLL instructions and sample applications.

- ▶▶ 128-256-bit AES (Rijndael) end-to-end encryption
- ▶▶ Two-fish 128-bit encryption/decryption
- ▶▶ Cipher Block Chaining (CBC) mode
- ▶▶ Cipher Feedback 128-bit (CFB128) mode
- ▶▶ Windows® sockets
- ▶▶ Binding for Visual Basic, C and Java
- ▶▶ UDP/TCP socket support
- ▶▶ Client or Server mode
- ▶▶ Example applications for C and VB



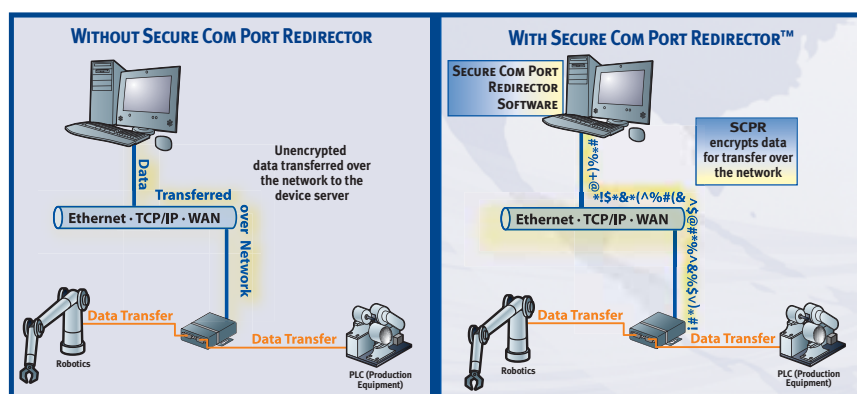
SECURE COM PORT REDIRECTOR – EXTENDING COMMUNICATIONS WITH ENCRYPTED VIRTUAL COM PORTS



Secure Com Port Redirector™ (SCPR) is a Windows-based application that creates a secure network path between the computer and serial-based devices that are traditionally controlled via a COM port. Using standard TCP/IP protocols and advanced encryption algorithms, SCPR maps “virtual COM ports” to Lantronix device servers and encrypts the data at both ends of the communication. This capability enables COM-based software applications to communicate securely over a network or the Internet to remote serial devices. Those devices can then be managed from virtually anywhere without the threat of compromising data security.

Sensitive information can be transmitted to and from remote equipment over the network or the Internet with the added confidence of the highest level of security. By enhancing communication from centralized applications to remote devices without the need to modify the application or device, SCPR breathes new life into legacy equipment.

SCPR can also be used to create secure COM port-based connections between PCs over Ethernet. With SCPR installed at each machine, PCs that were formerly “hard-wired” by serial cabling for security purposes or to accommodate applications that only understood serial data can instead communicate over Ethernet.



FREE SOFTWARE, UTILITIES AND TOOLS

COM PORT REDIRECTOR™

With this unique and easy-to-manage product, you can extend the functionality of COM port-based Windows applications. Com Port Redirector enables existing PC applications to communicate with networked devices by redirecting local PC COM port communications to the COM port of a remote networked device.

DEVICEINSTALLER™

This Windows-based GUI application simplifies the installation and configuration of CoBox and UDS device servers.

- ▶▶ Load the appropriate firmware into the device server
- ▶▶ Enable Telnet communication
- ▶▶ Assign IP and other network-specific addresses to the unit
- ▶▶ Load configuration files
- ▶▶ Load custom web pages
- ▶▶ View all device servers on the network

EZWEBCON

EZWebCon® is a user-friendly management utility software that enables you to configure and monitor Lantronix device servers. EZWebCon allows you to easily configure a variety of Lantronix product options and monitor activity through on-screen menus instead of entering commands at the local prompt.

SOFTWARE DEVELOPER'S KIT (SDK)

If you are a manufacturer, VAR, systems designer or end user with custom connectivity needs, the Lantronix Software Developer's Kit (SDK) is for you. The SDK provides a powerful, easy-to-use development environment that allows you to quickly develop hundreds of powerful custom applications.

RTEL

RTEL solves major network printing problems in Linux and other Unix systems by allowing you to easily route, print and properly format graphics, multiple copy jobs and more over the network, with full support for input/output filters and banners.

Connect... Communicate... Control...

LANTRONIX®

VIC NETWORKING TECHNOLOGY PARTNER

As recognized experts in connecting equipment to networks and the Internet, Lantronix provides proven benefits to power your quest to improve business communications.

PARTNER WITH A RECOGNIZED LEADER IN QUALITY – At Lantronix, we take our commitment to quality, reliability and environmentally-sound manufacturing processes very seriously. We are ISO 9001 and ISO 14001-registered and we have proactively implemented strategies to meet RoHS and WEEE directives.

ACCELERATE TIME TO MARKET – A Lantronix device server is so easy to integrate that it can add network connectivity in a few minutes using an external device server and in a few weeks using an embedded unit.

REDUCE DESIGN RISK – Lantronix products are already engineered, tested and EMC-compliant, eliminating the R&D and investment risk inherent in trying to network-enable an edge device.

GAIN A COMPETITIVE EDGE – Putting a device on the network gives it functionality with a quantifiable benefit. Through remote diagnostic capability, service costs will drop while responsiveness will increase, simultaneously improving both revenue and customer satisfaction.

LEVERAGE LEGACY EQUIPMENT – Existing non-networked or legacy devices can increase their lifespan, improving ROI and allowing them to integrate with newer networked systems.

SAVE TIME AND MONEY – By providing a complete networking solution, Lantronix ensures that OEMs and systems integrators do not have to spend time and resources developing it themselves.

MAKE NETWORKED DEVICES MORE PROFITABLE – Smart devices can provide new revenue streams and competitive advantages by enabling companies to offer new value-added services.

ENJOY THE INDUSTRY'S BEST TECHNICAL SUPPORT – Lantronix has a highly trained and experienced technical support team dedicated to helping you succeed using our products.



INDUSTRY-LEADING QUALITY

At Lantronix, we believe that our quality differentiates us as much from our competition as our innovative products. Reflecting our unwavering commitment to quality, reliability and environmentally-sound manufacturing processes, we are ISO 9001:2000- and ISO 14001-registered. ISO 9001:2000 is a business process tool that helps companies manage their processes in a controlled manner, resulting in the production of high-quality products. ISO 14001 is a management system that helps companies develop and execute a policy that ultimately reduces harmful effects on the environment.

A European Community Directive (2002/95/EC) requires that all products sold into Europe by July 2006 meet ISO 14001 standards. Both standards were established by ISO (International Organization for Standardization), the world's largest developer of standards. Lantronix is committed to building the highest-quality products to environmentally friendly standards.

When you choose Lantronix, you get the peace of mind that comes from partnering with a highly experienced technical innovator with a commitment to the highest quality, environmental and business principles.



YOUR PARTNER IN TECHNOLOGY

UNMATCHED TECHNICAL SUPPORT

At Lantronix, we offer a level of worldwide customer and technical support unmatched in the industry. You'll not find a more experienced, knowledgeable or courteous staff anywhere. Engineers and technical professionals comprise nearly half of our workforce, so you can rest assured that your representative will not only be knowledgeable about Lantronix products, but also about how they can help in your specific application.

For access to our extensive online knowledge base and FAQs, visit www.lantronix.com/support.

LANTRONIX TECHNICAL SUPPORT OFFERS:

Free phone support with minimal hold time:

North America

- ▶▶ 6 a.m. – 5:00 p.m. PST, Monday through Friday
(800) 422-7044

Europe, Middle East, Africa

- ▶▶ 33 (0)1 39 30 41 72
- ▶▶ Virtual on-site support via Live Assist
- ▶▶ Online chat
- ▶▶ Web-based video configuration tutorials
- ▶▶ Online knowledge base and FAQs
- ▶▶ Extended services:
 - ▶▶ Extended warranty
 - ▶▶ 24x7 telephone technical support
 - ▶▶ Advanced replacement



Just give us a call or visit www.lantronix.com and find out why we're so proud of our support team and the services we provide.



Make the Intelligent Choice for M2M Networking

The value of Lantronix solutions is proven in millions of network-enabled devices that add intelligence to businesses worldwide. Discover for yourself the benefits of a Lantronix partnership: an unparalleled level of network capability unrestricted by geography, increased efficiency and flexibility, and more robust and profitable business operations.

Visit lantronix.com or call our sales support team at **(800) 422-7055** to discuss your application or to schedule a demonstration at your facility. You'll be amazed at how quickly and easily you can add networking intelligence to your business. But don't just take our word for it. Put Lantronix to the test.

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