Secure and reliable connectivity solutions

IOLAN STS Rack

- 4, 8, 16 or 24 serial RS232 on RJ45 Ports
- 10/100/1000 Ethernet
- AC power or 48v DC power models
- Advanced security feature set

Engineers and Project Managers that require a cost effective **serial RS232-to-Ethernet** 1U rack solution that maintains serial device protocol integrity across Ethernet must consider the IOLAN STS Rack. Having the highest performance processor available along with Perle's unique TrueSerial™ technology, the IOLAN STS Rack will provide the most authentic serial connections across Ethernet.

Ideal for

- Engineers and Project Managers requiring a high performance serial to Ethernet interface for 4 to 24 serial RS232 based devices. Connect to serial based applications over Ethernet
- IT Professionals requiring a cost-effective **terminal server** or serial **console server** for out of band management of IT equipment located in smaller data centers or remote sites

Why IOLAN STS Rack models are the preferred choice:

- High performance 400 MHz, 750 MIPS, 32 bit processor with integrated hardware encryption processor for the best throughput
- Next Generation IP support (IPv6) for investment protection and network compatibility
- TrueSerial™ packet technology – the most authentic serial connections across Ethernet ensures serial protocol integrity
- Primary/Backup host functionality enables automatic connections to alternate hosts should the primary TCP connection go down
- EasyPort Web – Access equipment serial console ports by using your java-enabled Internet browser
- TruePort – Perle's com/tty redirector for serial based applications operates on Windows, Vista, Linux, Solaris, SCO and Unix
- Clustering – Provides a single view of all out of band console ports. Ideal for large data centers
- FIPS 140-2 – Cryptographic modules meet US Government NIST compliancy
- Dynamic DNS – Easy console management access from anywhere on the Internet 4, 8, 16 or 24 serial RS232 on RJ45 Ports
- Intelligent Power cycling of equipment with Perle Remote Power Switches
- Java-free browser access to remote serial console ports via Telnet and SSH
- Ping watchdog probes enable customers to power cycle equipment with attached Perle RPS power switches in the event of an unresponsive networking gear
- Lifetime warranty – best investment protection available

Serial Port Access

	Connect directly using Telnet / SSH by port and IP address
	Connect with EasyPort menu by Telnet / SSH
	Use an internet browser to access with HTTP or secure HTTPS via EasyPort Web menu
	Java-free browser access to remote serial console ports via Telnet and SSH
	Ports can be assigned a specific IP address (aliasing)
	Multisession capability enables multiple users to access ports simultaneously
	Multihost access enables multiple hosts/servers to share serial ports

Accessibility

	In-band (Ethernet) and out-of-band (dial-up modem) support
	Dynamic DNS enables users to find a console server from anywhere on the Internet
	Domain name control through DHCP option 81
	IPV6 and IPV4 addressing support

Availability

	Primary/Backup host functionality enables automatic connections to alternate host(s)

Security

	SSH v1 and v2
	SSL V3.0/TLS V1.0, SSL V2.0
	SSL Server and SSL client mode capability
	SSL Peer authentication
	IPSec VPN : NAT Traversal, ESP authentication protocol
	Encryption: AES (256/192/128), 3DES, DES, Blowfish, CAST128, ARCFOUR(RC4), ARCTWO(RC2)
	Hashing Algorithms: MD5, SHA-1, RIPEMD160, SHA1-96, and MD5-96
	Key exchange: RSA, EDH-RSA, EDH-DSS, ADH
	X.509 Certificate verification: RSA, DSA
	Certificate authority (CA) list
	Local database
	RADIUS Authentication, Authorization and Accounting
	TACACS+ Authentication, Authorization and Accounting
	LDAP, NIS, Kerberos Authentication
	RSA SecureID-agent or via RADIUS Authentication
	SNMP v3 Authentication and Encryption support
	IP Address filtering
	Disable unused daemons
	Active Directory via LDAP

Terminal Server

	Telnet
	SSH v1 and v2
	Rlogin
	Auto session login
	LPD, RCP printer
	MOTD - Message of the day

Serial machine to Ethernet

	Tunnel raw serial data across Ethernet - clear or encrypted
	Raw serial data over TCP/IP
	Raw serial data over UDP
	Serial data control of packetized data
	Share serial ports with multiple hosts/servers
	Virtual modem simulates a modem connection - assign IP address by AT phone number
	Virtual modem data can be sent over the Ethernet link with or without SSL encryption
	TruePort com/tty redirector for serial based applications on Windows, Vista, Linux, Solaris, SCO and HP UX. For latest drivers click here

"TrueSerial packet technology provides the most authentic serial connections across Ethernet ensuring serial protocol integrity"

RFC 2217 standard for transport of serial data and RS232 control signals

Customizable or fixed serial baud rates

Plug-ins allow customer or Perle provided plug-ins for special applications

Software Development Kit (SDK) available

Serial encapsulation of industrial protocols such as ModBus, DNP3 and IEC-870-5-101

ModBus TCP gateway enables serial Modbus ASCII/RTU device connection to ModBus TCP

Data logging will store serial data received when no active TCP session and forward to network peer once session re-established - 32K bytes circular per port

Console Management

Sun Break Safe

Local port buffer viewing - 256K bytes per port

External port buffering via NFS, encrypted NFS and Syslog

Event notification

Manage AC power of external equipment using Perle RPS power management products

Clustering - central console server enables access ports across multiple console servers

Windows Server 2003/2008 EMS - SAC support GUI access to text-based Special Administrative Console

Ping watchdog probes enable customers to power cycle equipment with attached Perle RPS power switches in the event of an unresponsive networking gear

Remote Access

Dial, direct serial	PPP, PAP/CHAP, SLIP
	HTTP tunneling enables firewall-safe access to remote serial devices across the internet
Automatic DNS Update	Utilize DHCP Opt 81 to set IOLAN domain name for easy name management and with Dynamic DNS support , users on the Internet can access the device server by name without having to know its IP address. See Automatic DNS update support for details
IPSEC VPN client/servers	Microsoft L2TP/IPSEC VPN client (native to Windows XP)
	Microsoft IPSEC VPN Client (native to Windows Vista)
	Cisco routers with IPSEC VPN feature set
	Perle IOLAN SDS/STS and SCS models

OA&M (Operations, Administration and Management)

SNMP V3 - read and write, Perle MIB

Syslog

Perle Device Manager - Windows based utility for large scale deployments

Configurable default configuration

Installation Wizard

Set a Personalized Factory Default for your IOLANs

Protocols

IPv6, IPv4, TCP/IP, Reverse SSH, SSH, SSL, IPSec/IPv4, IPSec/IPv6, L2TP/IPSec, CIDR, RIPV2/MD5, ARP, RARP, UDP, UDP Multicast, ICMP, BOOTP, DHCP, TFTP, SFTP, SNTP, Telnet, raw, reverse Telnet, LPD, RCP, DNS, Dynamic DNS, WINS, HTTP, HTTPS, SMTP, SNMPV3, PPP, PAP/CHAP, SLIP, CSLIP, RFC2217, MSCHAP

Hardware Specifications - IOLAN STS - AC Rack, RS232 Models

	IOLAN STS4	IOLAN STS8	IOLAN STS16	IOLAN STS24
Processor	MPC8349E, 400 Mhz, 750 MIPS			
Memory				
RAM MB	32	64	64	128
Flash MB	16	16	16	16
Interface Ports				
Number of Serial Ports	4	8	16	24
Serial Port Interfase	RS232 DTE on RJ45			
Sun / Solaris	Sun break safe			
Serial Port Speeds	50bps to 230Kbps with customizable baud rate support			
Data Bits	5,6,7,8, 9-bit protocol support			
Parity	Odd, Even, Mark, Space, None			
Flow Control	Hardware, Software, Both			
Serial Port Protection	15Kv Electrostatic Discharge Protection (ESD)			
Local Console Port	RS232 on RJ45 with DB9 adapter (provided)			
Network	10/100/1000-base TX Ethernet RJ45			
	Software selectable Ethernet speed 10/100/1000, Auto			
	Software selectable Half/Full/Auto duplex			
Ethernet Isolation	1.5Kv Magnetic Isolation			
Power				
Power Supply	USA models — IEC320-C13 to NEMA 5-15P line cord			
	UK models — IEC320-C13 to BS1363 line cord			
	EU models — IEC320-C13 to CEE 7/7 Schuko			
	South Africa Models — IEC320-C13 to BS546 line cord			
	Australia models — IEC320-C13 to AS3112 line cord			
Nominal Input Voltage	110/230v AC			
Input Voltage Range	100-240v AC			
AC Input Frequency	47-63Hz			
Current Consumption @ 100v (Amps)	0.11	0.11	0.12	0.12
Current Consumption @ 240v (Amps)	0.05	0.05	0.06	0.06
Typical Power Consumption (Watts)	11	11	12	12
Power Line Protection	Fast transients: 1 KV (EN61000-4-4 Criteria B)			
	Surge: 2KV (EN61000-4-5 common mode), 1KV (EN61000-4-5 differential and common modes)			
Indicators				
LEDs	Power			
	System Ready			
	Network Link activity			
	Serial: Transmit and Receive data per port			
Environmental Specifications				
Heat Output (BTU/HR)	38	38	42	42
MTBF (Hours)	179425	174418	160992	130470
Operating Temperature	0C to 55C, 32F to 131F			
Storage Temperature	-40C to 85C, -40F to 185F			
Humidity	5 to 95% (non condensing) for both storage and operation.			
Ingress Protection Rating	IP30			
Mounting	1U - 19" rack, front and rear mounting hardware included			
Product Weight and Dimensions				
Weight	2.8 kg	3 kg	3.1 kg	3.1 kg
Dimensions	1U Rack form factor - 26.4 x 43.4 x 4.4 (cm), 10.38 x 17.1 x 1.75 (in)			

Packaging

Shipping Dimensions	59 x 36 x 9cm			
Shipping weight	3.96 kg	3.98 kg	4.0 kg	4.2 kg

Regulatory Approvals

|	
Emissions	FCC Part 15, Subpart B, Class A
	CFR47:2003, Chapter 1, Part 15 Subpart B,(USA) Class A
	ICES-003, Issue 4, February 2004 (Canada)
	EN55022:1998 + A1:2000 + A2:2003 Class A
	EN61000-3-2 : 1995, Limits for Harmonic Current Emissions
	EN61000-3-3 : 1995, Limits of Voltage Fluctuations and Flicker
Immunity	EN55024:1998 + A1:2001 + A2:2003
	EN61000-4-2: Electrostatic Discharge
	EN61000-4-3: RF Electromagnetic Field Modulated
	EN61000-4-4: Fast Transients
	EN61000-4-5: Surge
	EN61000-4-6: RF Continuous Conducted
	EN61000-4-8: Power-Frequency Magnetic Field
	EN61000-4-11: Voltage Dips and Voltage Interruptions
Safety	IEC 60950-1 : 2005 (2nd Edition) + A1 : 2009 and EN 60950-1 : 2006 + A11 : 2009
	CAN/CSA-C22.2 No. 60950-1-03 and ANSI/UL 60950-1, First Edition April 1st 2003 (Recognized Component)
Other	RoHS - 2002/95/EC Directive
	WEEE - 2002/96/EC Directive
	CCATS - G052929
	ECCN - 5A992A
	HTSUS Number: 8471.80.1000
	Perle Lifetime warranty

IOLAN DTE

Pin 1

RJ45 Socket

IOLAN RJ45 Socket	Function	Direction
1	DCD	←
2	RTS	→
3	DSR	←
4	TXD	→
5	RXD	←
6	GND	—
7	CTS	←
8	DTR	→

Optional Perle adapters for use with straight thru CAT5 cabling

Make your own cables

TCP

Using RAW TCP Sockets

A raw TCP socket connection which can be initiated from the serial-Ethernet device or from the remote host/server. This can either be on a point to point or shared basis where a serial device can be shared amongst multiple devices. TCP sessions can be initiated either from the TCP server application or from the Perle IOLAN **serial-Ethernet** adapter.
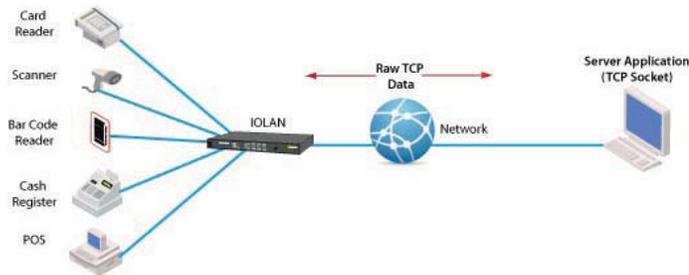

UDP

Using Raw UDP Sockets

For use with UDP based applications, Perle IOLANs can convert serial equipment data for transport across UDP packets either on a point to point basis or shared across multiple devices.
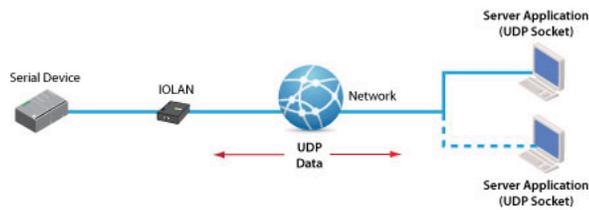
Console Server

Console Management

For access to remote console ports on routers, switches,etc, Perle IOLAN's enable administrators secure access to these RS232 ports via inband Reverse Telnet / SSH or out of band with dial-up modems. Perle IOLAN models with integrated modems are available.
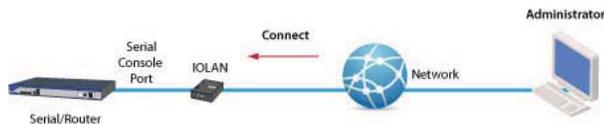
COM/TTY

Connect Serial-based Applications with a COM/TTY Port Driver

Serial ports can be connected to network servers or workstations running Perle's TruePort software operating as a virtual COM port. Sessions can be initiated either from the Perle IOLAN or from TruePort.

Tunneling

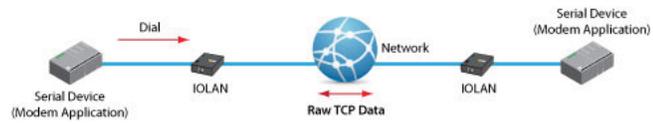### Serial Tunneling between two Serial Devices

Serial Tunneling enables you to establish a link across Ethernet to a serial port on another IOLAN. Both IOLAN serial ports must be configured for Serial Tunneling (typically one serial port is configured as a Tunnel Server and the other serial port as a Tunnel Client).

Virtual Modem

Virtual Modem

Enables the serial-Ethernet adapter to simulate a modem connection. When connected to the IOLAN and initiates a modem connection, the IOLAN starts up a TCP connection to another IOLAN serial-Ethernet adapter configured with a Virtual Modem serial port or to a host running a TCP application.

Description		Power Cord	Product Part Number
	IOLAN STS24 - 24 x RJ45 serial ports, 10/100/1000 Ethernet, 1U rack mount, RS232 interface, advanced feature set	USA	04030464
		UK	04030461
		EU	04030462
		SA	04030465
		AUS	04030466
	IOLAN STS16 - 16 x RJ45 serial ports, 10/100/1000 Ethernet, 1U rack mount, RS232 interface, advanced feature set	USA	04030444
		UK	04030441
		EU	04030442
		SA	04030445
		AUS	04030446
	IOLAN STS8 - 8 x RJ45 serial ports, 10/100/1000 Ethernet, 1U rack mount, RS232 interface, advanced feature set	USA	04030414
		UK	04030411
		EU	04030412
		SA	04030415
		AUS	04030416
	IOLAN STS4 - 4 x RJ45 serial ports, 10/100/1000 Ethernet, 1U rack mount, RS232 interface, advanced feature set	USA	04030404
		UK	04030401
		EU	04030402
		AUS	04030406
		SA	04030405

Accessories:

Accessories		
3m Cbl-Straighthru	3 meter RJ45 to RJ45 CAT5 Straight-thru cable #1100360-10	04005120
IOLAN RACK DIN RAIL	DIN Rail Mounting Kit for all IOLAN Rack models	04032490
Starter Kit (8-wire)	IOLAN Starter Kit (8-wire): 1x RJ-45 to DB-25 DTE Male adapter, 1x RJ-45 to DB-25 DCE Male adapter, 1x RJ-45 to DB-25 DTE Female adapter, 1x RJ-45 to DB-9 Male DTE adapter, 1x RJ-45 to DB-9 Female DTE adapter and 1x RJ45M-RJ45F Sun/Cisco crossover adapter	04007000
Cable Accessories Please click here to see what adapters you may need		
3m Cbl-Sun/Cisco Prl	3m Cbl-Sun/Cisco Prl - RJ45-RJ45 IOLAN DS to Sun/Cisco 3m Cable	04030070
DBA0010	DBA0010 - RJ-45F to DB-25F crossover (DTE) adapter for console port #1100220-10	04006950
DBA0010 8pck	DBA0010 8pck - 8 pack of #04006950 IOLAN-RJ45F to DB25F (DTE) crossover adapter	04031240
DBA0011	DBA0011 - RJ-45F to DB-25M crossover (DTE) adapter for console ports. #1100230-10	04006960
DBA0011 8pck	DBA0011 8pck - 8 pack of #04006960 IOLAN-RJ45F to DB25M (DTE) crossover adapter	04031250
DBA0013	DBA0013 - RJ-45F to DB-25M straight-thru (DCE) adapter for modems #1100260-10	04006990
DBA0013 8pck	DBA0013 8pck - 8 pack of #04006990 IOLAN-RJ45F to DB25M Straight-thru adapter for modems	04031280
DBA0020	DBA0020 - RJ-45F to DB-9F crossover (DTE) adapter for console ports. #1100240-10	04006970
DBA0020 8pck	DBA0020 8pck - 8 pack of #04006970 IOLAN-RJ45F to DB9F (DTE) crossover adapter	04031260
DBA0021	DBA0021 - RJ-45F to DB-9M crossover (DTE) adapter for console ports. #1100250-10	04006980
DBA0021 8pck	DBA0021 8pck - 8 pack of #04006980 IOLAN-RJ45F to DB9M (DTE) crossover adapter	04031270
DBA0023	DBA0023 - RJ-45F to DB-9M straight-thru (DCE) adapter for modems #1100340-10	04007200
DBA0031	DBA0031 - IOLAN - RJ45M to RJ45F Sun/Cisco crossover adapter #1100219-10	04030080
DBA0031 8pck	DBA0031 8pck - 8 pack of #04030080 IOLAN-RJ45M to RJ45F Sun/Cisco crossover adapter	04031230

		Maintenance agreements - Console Server / Device Server / Terminal Server Please click here to check for maintenance availability in your region	
	NSS- 4 PortXPRESSREP	4 Port Terminal/Device/Console Servers - Express Replacement	➲ SERNSS04
	NSS- 4 PortXPRESSREPF	4 Port Terminal/Device/Console Servers - Express Replacement French	➲ SERNSS04F
	NSS- 8 PortONSITE5x7	8 Port Terminal/Device/Console Servers - On Site Mon-Fri 9am - 5pm	➲ SOS5NSS08
	NSS- 8 PortONSITE7X24	8 Port Terminal/Device/Console Servers - On-Site 7x24	➲ SOS7NSS08
	NSS- 8 PortXPRESSREP	8 Port Terminal/Device/Console Servers - Express Replacement	➲ SERNSS08
	NSS- 8 PortXPRESSREPF	8 Port Terminal/Device/Console Servers - Express Replacement French	➲ SERNSS08F
	NSS-16 PortONSITE5x7	16 Port Terminal/Device/Console Servers - On-site Mon-Fri - 9am - 5pm	➲ SOS5NSS16
	NSS-16 PortONSITE7X24	16 Port Terminal/Device/Console Servers - On-site 7x24	➲ SOS7NSS16
	NSS-16 PortZPRESSREP	16 Port Terminal/Device/Console Servers - Express Replacement	➲ SERNSS16
	NSS-16 PortZPRESSREPF	16 Port Terminal/Device/Console Servers - Express Replacement French	➲ SERNSS16F
	NSS-24 PortONSITE5x7	24 Port Terminal/Device/Console Servers - On-site Mon-Fri, 9am - 5pm	➲ SOS5NSS24
	NSS-24 PortONSITE7X24	24 Port Terminal/Device/Console Servers - On-site 7x24	➲ SOS7NSS24
	NSS-24 PortXPRESSREP	24 Port Terminal/Device/Console Servers - Express Replacement	➲ SERNSS24
	NSS-24 PortXPRESSREPF	24 Port Terminal/Device/Console Servers - Express Replacement French	➲ SERNSS24F