IOLAN STS Rack Terminal Server | RS232 to Ethernet

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IOLAN STS Rack

Serial to Ethernet Terminal Server

- 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.

IOLAN STS Terminal Servers are 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 Terminal Servers 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
- 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
- Lifetime warranty – best investment protection available

Software Features - IOLAN STS Terminal Servers

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

PCI DSS Compliance: TLS v1.2, TLS v1.1, TLS v1.0, SSL v3.0, SSL v2.0

SSL Server and SSL client mode capability

SSL Peer authentication

IPSec VPN : NAT Traversal, ESP authentication protocol

SSH ciphers: AES-CTR, AES-GCM and ChaCha20-poly1305

	SSL encryption: AES-GCM, key exchange ECDH-ECDSA, HMAC SHA256, SHA384
	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, Linux, Solaris, SCO, HP UX, NCR UNIX and AIX. For a complete list of all the 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 / Oracle Solaris 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

	<u>Windows Server 2003/2008 EMS - SAC support GUI access to text-based Special Administrative Console</u>
	Remote Access
Dial, direct serial	PPP, PAP/CHAP, SLIP
	<u>HTTP tunneling</u> 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 <u>Automatic DNS update</u> support for details
<u>IPSEC VPN client/servers</u>	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
	<u>Installation Wizard</u>
	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 Serial Terminal Server

	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 / Oracle 'Solaris' Safe - no "break signal" sent during power cycle causing costly server re-boots or downtime			
Serial Port Speeds	50bps to 230Kbps with customizable baud rate support			
Data Bits	Configurable for 5,6,7 or 8-bit protocol support Use TruePort to transparently pass 9-bit serial data			
Parity	Odd, Even, Mark, Space, None			
Flow Control	Hardware, Software, Both, None			
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
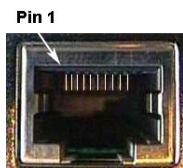
USA models	IEC320-C13 to NEMA 5-15P line cord
UK models	IEC320-C13 to BS1363 line cord
EU models	IEC320-C13 to CEE 7/7 Schuko
South Africa Models	IEC320-C13 to BS546 line cord
Australia models	IEC320-C13 to AS3112 line cord

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

	Power
	System Ready
	Network Link activity
LEDs	**Serial: Transmit and Receive data per port**

Environmental Specifications

Heat Output (BTU/HR)	38	38	42	42

	179425	174418	160992	130470
MTBF (Hours)	*Calculation model based on MIL-HDBK-217-FN2 @ 30 °C			
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				
	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)			
	CISPR 32:2015/EN 55032:2015 (Class A)			
	EN55011 (CISPR11)			
	EN61000-3-2 : 2010, Limits for Harmonic Current Emissions			
Emissions	EN61000-3-3 : 2010, Limits of Voltage Fluctuations and Flicker			
Immunity	CISPR 24:2010/EN 55024:2010			
	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
	UL/EN/IEC 62368-1 CAN/CSA C22.2 No. 62368-1
	IEC 60950-1(ed 2); am1, am2 and EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
Safety	CAN/CSA-C22.2 No. 60950-1-03 and ANSI/UL 60950-1, First Edition April 1st 2003 (Recognized Component)
	Reach, RoHS and WEEE Compliant
	CCATS - G168387
	ECCN - 5A992
	HTSUS Number: 8517.62.0020
Other	Perle Limited Lifetime Warranty

IOLAN RJ45 Serial Connector Pinout

	Pinout	**Direction**	**EIA-232**
	1	in	DCD
	2	out	RTS
	3	in	DSR
	4	out	TxD
	5	in	RxD
RJ45 Socket	6		GND
	7	in	CTS
	8	out	DTR

Pin 1

Optional Perle adapters for use with straight thru CAT5 cabling

TCP
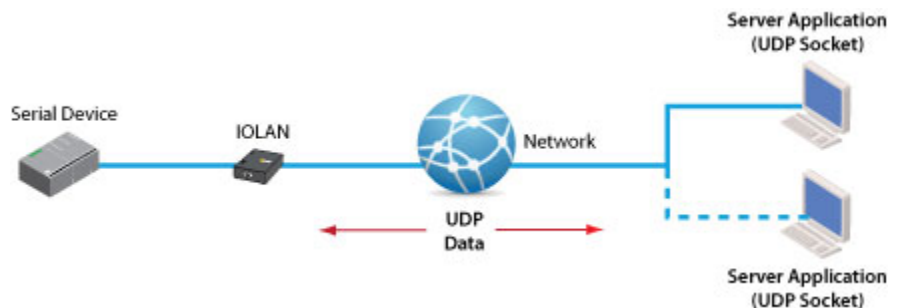
Using RAW TCP Sockets

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 thePerle IOLAN **serial-Ethernet** adapter.
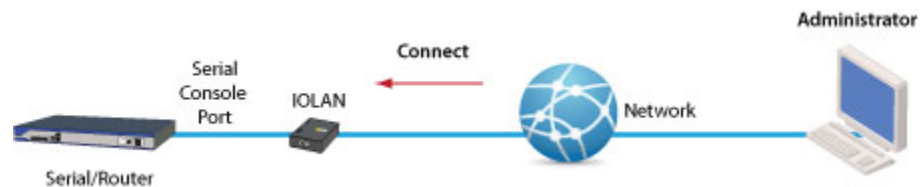

UDP

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.
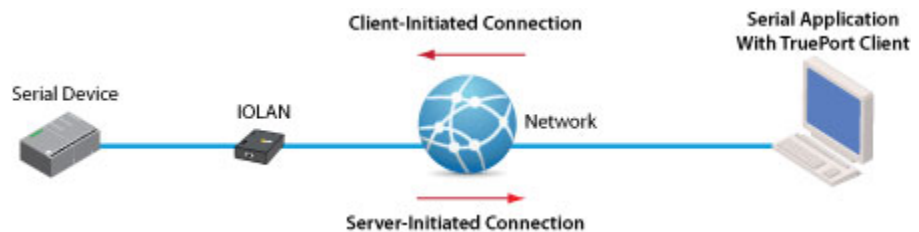

Console Server

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.