IOLAN STG Secure Terminal Servers

perle.com/products/iolan-sts-d-terminal-server.shtml

Serial to Ethernet Terminal Servers

- 4 or 8 serial RS232 on RJ45 Ports
- 10/100 or 10/100/1000 Ethernet
- Small compact size
- Wall, desk or DIN Rail mounting
- Advanced security feature set

Engineers and Project Managers that require a cost effective 4 or 8 port serial **RS232-to-Ethernet** solution that maintains serial device protocol integrity across Ethernet must consider the IOLAN STG. Having the highest performance processor available along with the Perle's unique TrueSerialTM technology, the IOLAN STG will provide the most authentic serial connections across Ethernet. IOLAN STS4-D Serial Terminal Servers are also available with support for Power over Ethernet (PoE).

Ideal for

- Engineers and Project Managers requiring a high performance serial to Ethernet interface for up to 4 or 8 serial RS232 based devices. Connect to serial based applications over Ethernet
- Compact size offers the smallest 4 or 8 port serial to Ethernet solution on the market

Why IOLAN STG Terminal Servers are the preferred choice:

- High performance processors for the best throughput available. Ideal for time sensitive applications
- Compact size offers the smallest 4 port serial to Ethernet solution on the market
- 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
- 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, 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
	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 STG and STS-D

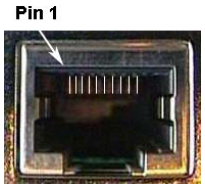
	IOLAN STG	IOLAN STS-D
Processor	600 Mhz ARM processor	MPC852T, 66 Mhz, 87 MIPS
Memory		
RAM MB	512	32
Flash MB	4000	8
Interface Ports		
Number of Serial Ports	4 or 8	4 or 8
Serial Port Interface	RS232 DTE on RJ45 (10 pin)	
Sun / Solaris	Sun / Oracle ‘Solaris' Safe - no "break signal" sent during power cycle causing costly server re-boots or downtime	
Serial Port Speeds	300bps to 230Kbps with customizable baud rate support	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, None	
Serial Port Protection	15Kv Electrostatic Discharge Protection (ESD)	
Local Console Port	RS232 on RJ45 with DB9 adapter (provided)	
Network	Network Autosensing 1000Base-T / 100Base-TX / 10Base-T Auto-MDIX	**4 Port:** 10/100Base-TX Ethernet RJ45 **8 Port:** 10/100Base-TX Ethernet RJ47
	Software selectable Ethernet speed 10/100/1000 Auto	Software selectable Ethernet speed 10/100/Auto
	Software selectable Half/Full/Auto duplex	
Ethernet Isolation	1.5Kv Magnetic Isolation	
Power		
Power Supply	120 V AC (USA), 230V AC (International) Wall Power Adaptor included	
Power Supply Options	Power via External power 9-30v DC, 4.8 Watts uses standard 5.5mm x 9.5mm x 2.1mm barrel socket, Power IN over serial cable	
Nominal Input Voltage	12v DC / 24v DC	
Input Voltage Range	9-30v DC	

Power IOLAN over Serial	**4 Port:** 9-30v DC **8 Port:** N/A	**4 Port:** 9-30v DC **8 Port:** N/A
Power External Device via Serial Port	**4 Port:** +5v DC regulated, 1W max **8 Port:** N/A	**4 Port:** +5v DC regulated, 1W max **8 Port:** N/A
Typical Power Consumption @ 12v DC (Watts)	**4 Port:** 2.0 **8 Port:** 2.7	**4 Port:** 2.4 **8 Port:** 3.0
Indicators		
LEDs	Power/System Ready	
	Network Link activity	
	Serial: Transmit and Receive data per port	
Environmental Specifications		
Heat Output (BTU/HR)	**4 Port:** 16.38 **8 Port:** 9.20	**4 Port:** 8.20 **8 Port:** 10.20
MTBF (Hours) Calculation model based on MIL-HDBK-217-FN2 @ 30 °C	**4 Port:** 259,560 **8 Port:** 171,852	**4 Port:** 391,199 **8 Port:** 339,967
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.	
Case	SECC Zinc plated sheet metal (1 mm)	
Ingress Protection Rating	IP30	
Mounting	Wall mount - bracket included	
	DIN Rail bracket optional	
Product Dimensions		
Weight	**4 Port:** 0.35 kg (0.77 lbs) **8 Port:** 0.55 kg (1.2 lbs)	**4 Port:** 0.35 kg (0.77 lbs) **8 Port:** 0.55 kg (1.2 lbs)
Dimensions	**4 Port:** 112 x 82 x 28 (mm), 4.4 x 3.2 x 1.1 (in) **8 Port:** 112 x 156 x 28 (mm), 4.4 x 6.1 x 1.1 (in)	**4 Port:** 112 x 82 x 28 (mm), 4.4 x 3.2 x 1.1 (in) **8 Port:** 112 x 156 x 28 (mm), 4.4 x 6.1 x 1.1 (in)
Packaging		
Shipping Weight	**4 Port:** .66 kg (1.46 lbs) **8 Port:** 1.3 kg (2.9 lbs)	**4 Port:** .66 kg (1.46 lbs) **8 Port:** 1.3 kg (2.9 lbs)
Shipping Dimensions	260 x 170 x 70 (mm), 10.2 x 6.7 x 2.8 (in)	
Regulatory Approvals		

Emissions	CFR47 FCC Part 15 Subpart B:2015	CFR47:2003, Chapter 1, Part 15 Subpart B, (USA) Class A
	ICES-003:2016 Issue 6:2016	ICES-003, Issue 4, February 2004 (Canada)
	CISPR 32:2015/EN 55032:2015 (Class A)	
	CISPR 16-2-3:2010/A2:2014	
	EN61000-3-2:2014, Limited for Harmonic Current Emissions	EN61000-3-2 : 2010, Limits for Harmonic Current Emissions
	EN61000-3-3:2013, Limits of Voltage Fluctuations and Flicker	EN61000-3-3 : 2010, Limits of Voltage Fluctuations and Flicker
Immunity	CISPR 24:2010/EN 55024:2010	
	EN61000-4-2: 2009 Electrostatic Discharge	
	EN61000-4-3: 2006/A2:2010: RF Electromagnetic Field Modulated	
	EN61000-4-4: 2004 Fast Transients	
	EN61000-4-5: 2006 Surge	
	EN61000-4-6: 2009 RF Continuous Conducted	
	EN61000-4-8: Power-Frequency Magnetic Field	
	EN61000-4-11: Voltage Dips and Voltage Interruptions	
Safety	IEC 62368-1 and EN 62368-1:2014	IEC 60950-1 (ed 2); am1 am2 and EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 +A2:2013
	CAN/CSA-C22.2 No. 62368-1-14 and UL 62368-1	CAN/CSA-C22.2 No. 60950-1-03 and ANSI/UL 60950-1, Second Edition
Other	Reach, RoHS and WEEE Compliant Directive 2011/65/EU restriction of the use of certain hazardous substances in electrical and electronic equipment and meets the following standard:: EN 50581:2012	
		4 Port: CCATS - G168387 **8 Port:** CCATS - G168389
	ECCN - 5A992	
	HTSUS Number: 8471.80.1000	
	Perle Limited Lifetime Warranty	

Serial Connector Pinout - IOLAN STS4-D

IOLAN DTE

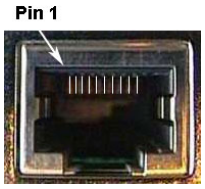


RJ45 Socket

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

Serial Connector Pinout - IOLAN STS8-D

IOLAN DTE



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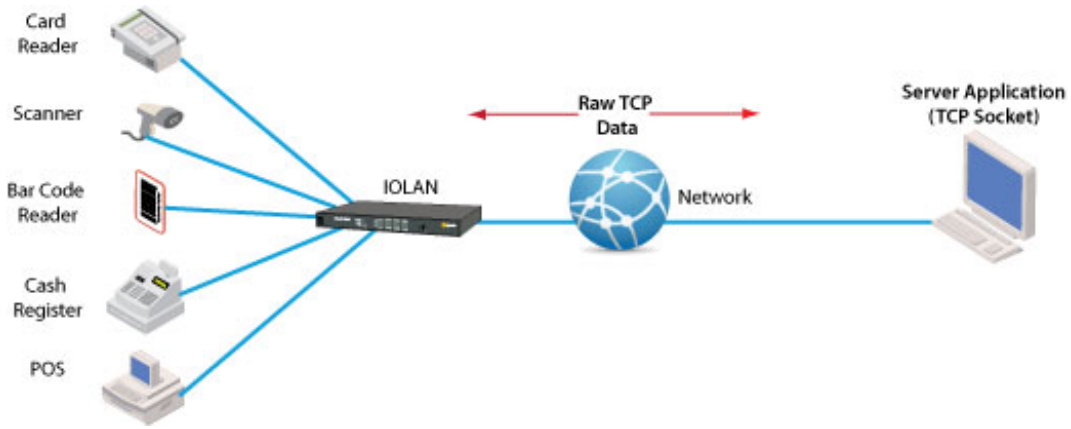
6	GND	—
7	CTS	←
8	DTR	→

Optional Perle adapters for use with straight thru CAT5 cabling

TCP

Using RAW TCP Sockets

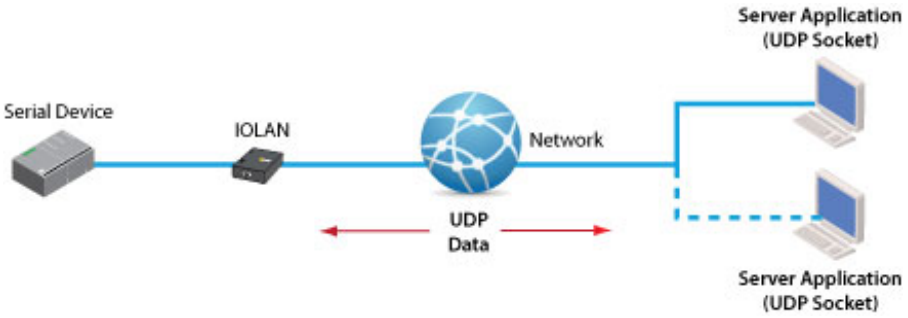
A raw TCP socket connection which can be initiated from the serial-Ethernet device or from the remote host/server. This can either be on a point to point or shared basis where a serial device can be shared amongst multiple devices. TCP sessions can be initiated either from the TCP server application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



UDP

Using Raw UDP Sockets

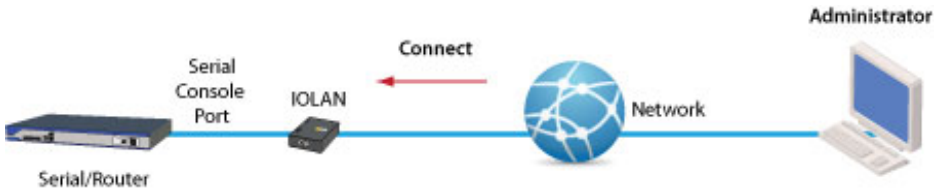
For use with UDP based applications, Perle IOLANs can convert serial equipment data for transport across UDP packets either on a point to point basis or shared across multiple devices.



Console Server

Console Management

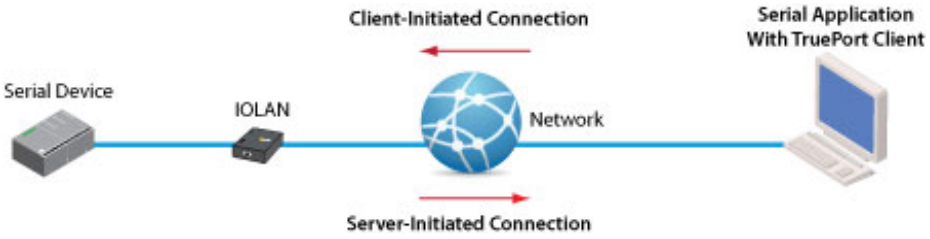
For access to remote console ports on routers, switches,etc, Perle IOLAN's enable administrators secure access to these RS232 ports via inband Reverse Telnet / SSH or out of band with dial-up modems. Perle IOLAN models with integrated modems are available.



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.