

# IOLAN STS4 PoE Terminal Server

 [perle.com/products/4-port-terminal-server-poe.shtml](http://perle.com/products/4-port-terminal-server-poe.shtml)

- 4 port RS232 on RJ45 Ports
- 10/100 or 10/100/1000 Ethernet
- Small compact size
- PoE powered using 802.3af compliant power sources
- Wall, desk or DIN Rail mounting
- Advanced security feature set



Engineers and Project Managers that require a cost effective power over Ethernet powered 4 port **serial RS232-to-Ethernet solution** that maintains serial device protocol integrity across Ethernet must consider the IOLAN STS4-P. Having the highest performance processor available along with the Perle's unique TrueSerial™ technology, the IOLAN STS4-P will provide the most authentic serial connections across Ethernet.

## Ideal for

- Engineers and Project Managers requiring a high performance serial to Ethernet interface for up to 4 serial RS232 based devices. Connect to serial based applications over Ethernet
- IT Professionals requiring a cost-effective 4 port **terminal server** or serial **console server** for out of band management of IT equipment located in smaller data centers or remote sites
- Organizations that need to deploy equipment in locations that are difficult or too costly to have separate AC power installed such as ceilings, walls and kiosks

## Why the IOLAN STS4 P Terminal Server is 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
- Fully compliant with [802.3af PoE compliant power sources](#) ( data or unused Ethernet pins )
- 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**

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Connect directly using Telnet / SSH by port and IP address

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[Connect with EasyPort menu by Telnet / SSH](#)

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[Use an internet browser to access with HTTP or secure HTTPS via EasyPort Web menu](#)

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Java-free browser access to remote serial console ports via Telnet and SSH

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[Ports can be assigned a specific IP address \( aliasing \)](#)

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Multisession capability enables multiple users to access ports simultaneously

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[Multihost access enables multiple hosts/servers to share serial ports](#)

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### **Accessibility**

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In-band ( Ethernet ) and out-of-band ( dial-up modem ) support

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[Dynamic DNS enables users to find a console server from anywhere on the Internet](#)

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[Domain name control through DHCP option 81](#)

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IPV6 and IPV4 addressing support

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### **Availability**

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

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### **Security**

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SSH v1 and v2

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SSL V3.0/TLS V1.0, SSL V2.0

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SSL Server and SSL client mode capability

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SSL Peer authentication

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[IPSec VPN : NAT Traversal, ESP authentication protocol](#)

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Encryption: AES (256/192/128), 3DES, DES, Blowfish, CAST128, ARCFOUR(RC4), ARCTWO(RC2)

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Hashing Algorithms: MD5, SHA-1, RIPEMD160, SHA1-96, and MD5-96

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Key exchange: RSA, EDH-RSA, EDH-DSS, ADH

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X.509 Certificate verification: RSA, DSA

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Certificate authority (CA) list

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Local database

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RADIUS Authentication, Authorization and Accounting

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TACACS+ Authentication, Authorization and Accounting

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LDAP, NIS, Kerberos Authentication

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RSA SecureID-agent or via RADIUS Authentication

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SNMP v3 Authentication and Encryption support

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IP Address filtering

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Disable unused daemons

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Active Directory via LDAP

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### **Terminal Server**

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Telnet

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SSH v1 and v2

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Rlogin

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Auto session login

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LPD, RCP printer

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MOTD - Message of the day

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### **Serial machine to Ethernet**

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[Tunnel raw serial data across Ethernet - clear or encrypted](#)

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Raw serial data over TCP/IP

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Raw serial data over UDP

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[Serial data control of packetized data](#)

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[Share serial ports with multiple hosts/servers](#)

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Virtual modem simulates a modem connection - assign IP address by AT phone number

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Virtual modem data can be sent over the Ethernet link with or without SSL encryption

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[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](#)

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[TrueSerial](#) packet technology provides the most authentic serial connections across Ethernet ensuring serial protocol integrity

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

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Customizable or fixed serial baud rates

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[Plug-ins allow customer or Perle provided plug-ins for special applications](#)

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[Software Development Kit \( SDK \) available](#)

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[Serial encapsulation of industrial protocols such as ModBus, DNP3 and IEC-870-5-101](#)

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[ModBus TCP gateway enables serial Modbus ASCII/RTU device connection to ModBus TCP](#)

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[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](#)

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### **Console Management**

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[Sun / Oracle Solaris Break Safe](#)

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Local port buffer viewing - 256K bytes per port

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External port buffering via NFS, encrypted NFS and Syslog

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Event notification

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[Manage AC power of external equipment using Perle RPS power management products](#)

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[Clustering - central console server enables access ports across multiple console servers](#)

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[Windows Server 2003/2008 EMS - SAC support GUI access to text-based Special Administrative Console](#)

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

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### **Remote Access**

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Dial, direct serial	PPP, PAP/CHAP, SLIP
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[HTTP tunneling](#) enables firewall-safe access to remote serial devices across the internet

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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
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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, SNMP, Telnet, raw, reverse Telnet, LPD, RCP, DNS, Dynamic DNS, WINS, HTTP, HTTPS, SMTP, SNMPV3, PPP, PAP/CHAP, SLIP, CSLIP, RFC2217, MSCHAP

## Hardware Specifications - IOLAN STS4 P - 4 port RS232 Power Over Ethernet Serial Device Server

	IOLAN STS4-P	IOLAN STS4-P G
Processor	MPC852T, 66 Mhz, 87 MIPS	600 Mhz ARM processor
<b>Memory</b>		
RAM MB	32	512
Flash MB	8	4000
<b>Interface Ports</b>		
Number of Serial Ports	4	
Serial Port Interface	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	300bps 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	10/100-base TX Ethernet RJ45	Autosensing 1000-base-T / 100-base TX / 10-base T Auto-MDIX
	Software selectable Ethernet speed 10/100/Auto	Software selectable Ethernet speed 10/100/1000/Auto
	Software selectable Half/Full/Auto duplex	
Ethernet Isolation	1.5Kv Magnetic Isolation	

### Power

Power over Ethernet	802.3af PoE compliant data pins (1/2, 3/6 or unused pins 4/5, 7/8) (48v DC)	
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 on Barrel Connector	
Input Voltage Range	9-30v DC on Barrel Connector	
Power External Device via Serial Port	+5v DC regulated, 1W max	
Typical Power Consumption '@ 12v DC ( Watts )	2.4	2

### Indicators

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

## Environmental Specifications

Heat Output (BTU/HR)	8.2	16.38
MTBF ( hours )	169,753	184,554

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.
Case	SECC Zinc plated sheet metal (1 mm)
Ingress Protection Rating	IP30
Mounting	Wall mount - bracket included DIN Rail bracket optional

## Product Dimensions

Weight	0.35 kg (.77 lbs)
Dimensions	112 x 82 x 28 (mm), 4.4 x 3.2 x 1.1 (in)

## Packaging

Shipping Weight	.54 kg (1.2 lbs)
Shipping Dimensions	260 x 170 x 70 (mm), 10.2 x 6.7 x 2.8 (in)

## Regulatory Approvals

Emissions	CFR47:2003, Chapter 1, Part 15 Subpart B, (USA) Class A	CFR47 FCC Part 15 Subpart B:2015
	ICES-003, Issue 4, February 2004 (Canada)	ICES-003:2016 Issue 6:2016
	CISPR 32:2015/EN 55032:2015 (Class A)	
		CISPR 32:2015/EN 55032:2015 (Class A)
	EN61000-3-2 : 2010, Limits for Harmonic Current Emissions	EN61000-3-2:2014, Limited for Harmonic Current Emissions

EN61000-3-3 : 2010, Limits of Voltage Fluctuations and Flicker

EN61000-3-3:2013, 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 60950-1 (ed 2); am1 am2 and EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 +A2:2013

IEC 62368-1 and EN 62368-1:2014

CAN/CSA-C22.2 No. 60950-1-03 and ANSI/UL 60950-1, Second Edition

CAN/CSA-C22.2 No. 62368-1-14 and UL 62368-1

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

CCATS - G168388

ECCN - 5A992

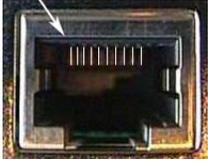
HTSUS Number: 8471.80.1000

Perle Lifetime warranty

**Serial Connector Pinout**

	<b>IOLAN RJ45 Socket</b>	<b>Function</b>	<b>Direction</b>
IOLAN DTE			
RJ45 Socket	1	Power In	←
	2	DCD	←

Pin 1



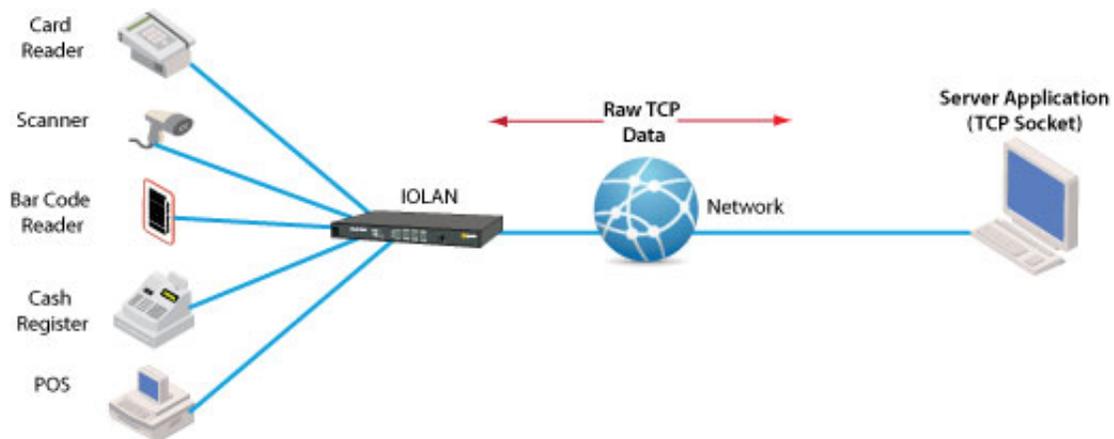
3	RTS	→
4	DSR	←
5	TXD	→
6	RXD	←
7	GND	—
8	CTS	←
9	DTR	→
10	Power Out	→

[Optional Perle adapters for use with straight thru CAT5 cabling](#)

## TCP

### Using RAW TCP Sockets

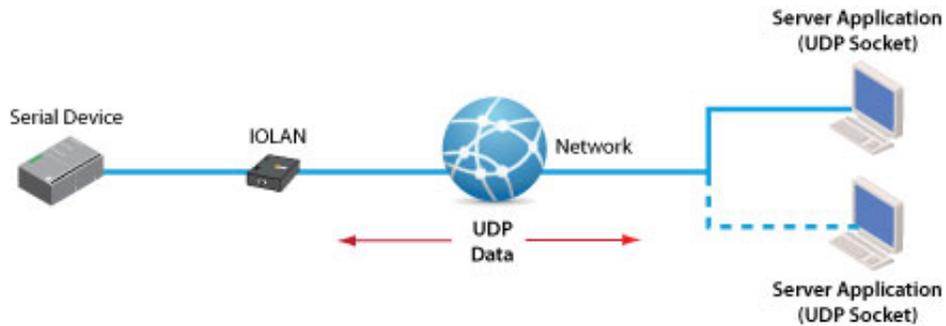
A raw TCP socket connection which can be initiated from the serial-Ethernet device or from the remote host/server. This can either be on a point to point or shared basis where a serial device can be shared amongst multiple devices. TCP sessions can be initiated either from the TCP server application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



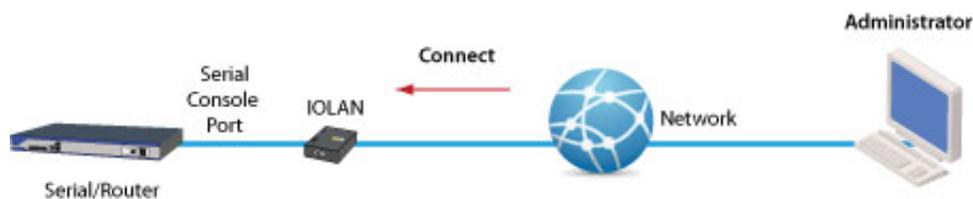
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## Console Server

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### 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.



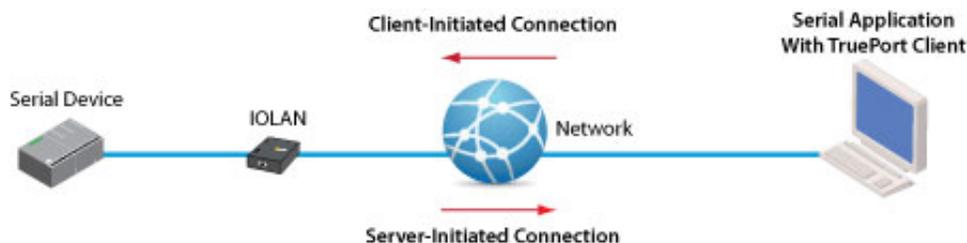
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## COM/TTY

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### 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.



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## Tunneling

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### 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).



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## Virtual Modem

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### 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.

