

IOLAN Rugged Console Server

 perle.com/products/console-server-nebs.shtml

for Telecommunication Facilities – NEBS Certified

- 8, 16 and 32 serial ports on RJ45 – software selectable RS232/422/485
- Dual input 18 – 72v DC (48v DC nominal) range
- NEBS Level 3 certified (SR-3580), GR-1089-CORE, GR-63-CORE
- Advanced Security including TACACS and RADIUS authentication
- Dual 10/100/1000 Ethernet with [Redundant Path Technology](#)



Telecommunication equipment engineers and project managers require a cost effective serial-to-Ethernet solution to monitor and manage network equipment which is often installed in lights-out data centres, distant POP sites, and co-location facilities. **IOLAN SDSC LDC Console Servers** are certified to meet harsh telecommunications environments addressed by the Telcordia Network Equipment Building Standard (NEBS) Level 3 standard.

Ideal for

- Telecommunications engineers and project managers requiring a high performance serial to ethernet solution for access to serial based console ports on network equipment
- Telecommunication facilities that require an out-of-the-band management solution with advanced security features and NEBS Level 3 certification

Why IOLAN SDSC LDC Console Servers are the preferred choice:

- NEBS Level 3 certified by an industry approved testing house
- Supports a wide voltage range of 18 – 72vDC required in 48vDC telecommunications facilities
- Dual feed voltage input for fault tolerant access to DC power
- Advanced Security features:
 - TACACS+, RADIUS for centralized authentication, authorization and accounting
 - Two factor strong authentication such as RSA's SecureID
 - [FIPS 140-2](#) – Cryptographic modules meet US Government NIST compliancy
 - HTTPS, SSL/TLS, SSH (AES, 3DES) session encryption
 - Keystroke and data logging
- Cisco RJ45 serial port pinout design enables simple connection to Cisco/SUN console ports using common “rolled” CAT5 cabling
- High performance 400 Mhz, 750 MIPS, 32 bit processor with integrated encryption processor for the best throughput in the market.
- [EasyPort Web](#) – Access equipment serial console ports by using your Internet browser
- Java-free browser access to remote serial console ports via Telnet and SSH
- 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 LDC Console Servers

	SDS8C LDC	SDS16C LDC	SDS32C LDC
Processor	MPC8349E, 400 Mhz, 750 MIPS		
Memory			
RAM MB	64	64	64
Flash MB	16	16	16
Interface Ports			
Number of Serial Ports	8	16	32

Serial Port Interface	Software selectable RS232 / RS485 / RS422 DTE on RJ45 - RS485: full and half duplex		
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	5,6,7,8, 9-bit protocol support		
Parity	Odd, Even, Mark, Space, None		
Flow Control	Hardware, Software, Both, None		
Local Console Port	RS232 on RJ45 with DB9 adapter (provided)		
Network	Dual 10/100/1000-base TX Ethernet RJ45		
	Software selectable Ethernet speed 10/100/1000, Auto		
	Software selectable Half/Full/Auto duplex		
Failsafe Alarm Relay	3A@24v DC. Normally open contacts closed by IOLAN when active and opened upon alarm condition or power failure		
Power			
Power Supply	Plugable Terminal Blocks with screw terminals accommodating 28 - 12 AWG wire sizes		
Nominal Input Voltage	24v DC / 48v DC		
Input Voltage Range	18 - 72v DC		
Current Consumption @ 18v DC (Amps)	0.4	0.55	0.85
Current Consumption @ 24v DC (Amps)	0.3	0.4	0.65
Current Consumption @ 48v DC (Amps)	0.2	0.25	0.35
Current Consumption @ 72v DC (Amps)	0.15	0.18	0.25
Typical Power Consumption (Watts)	11	13	18
Chassis Ground	Grounding screw for a #10 ring terminal		
Indicators			
LEDs	Power		
	System Ready		
	Network Link activity		
	Serial: Transmit and Receive data per port		
Environmental Specifications			

Heat Output (BTU/HR)	37.6	44.4	61.5
MTBF (Hours)*	126,302	105,495	82,402
Operating Temperature	-40C ambient for 16 hours and +70C ambient for 16 hours without use of fans		
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	1U - 19" rack, front and rear mounting hardware included. DIN Rail mounting kit optional		
Product Weight and Dimensions			
Weight	3.16 kg	3.18 kg	3.36 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 Weight	3.96 kg	3.98 kg	4.16 kg
Shipping Dimensions	59 x 36 x 9 (cm), 23 x 14 x 3.5 (in)		
Regulatory Approvals			
Network Equipment Building Systems (NEBS)	SR-3580 NEBS Level 3		
	GR-1089-CORE : NEBS EMI and Safety		
	GR-1089-CORE per Verizon VZ.TPR.9205 and ATT-TP-76200		
	GR-63-CORE: NEBS Physical Protection		
	GR-63-CORE / ANSI T1.319 per Verizon VZ.TPR.9305 and ATT-TP-76200		
Emissions	Power Line conducted: IEC 61850-3 Sec 5.8		
	CISPR 32:2015/EN 55032:2015 (Class A)		
	Telecom Line conducted: IEC 61000-6-4		
	Radiated: IEC 61850-3 Sec 5.8		
	CISPR 24:2010/EN 55024:2010		
	EN61000-3-2 : 2010 Limits for Harmonic Current Emissions		
	EN61000-3-3 : 2010, Limits of Voltage Fluctuations and Flicker		
EMC Interface Immunity	IEC 61850-3 (substations) IEEE 1613 (substations) (C37.90.x) Applies to all ports, signal and power connections		
	ESD: IEC61000-4-2, 8Kv Contact / 15Kv Air		
	Radiated RFI: IEC61000-4-3, 20 V/m (80M-1G)		

Fast Transients / Burst: IEC61000-4-4, 4Kv Mains , I/O

Surge : IEC61000-4-5
4Kv AC line to Gnd, 2Kv AC Line to Line,
2Kv DC line to Gnd, 1 Kv DC Line to Line,
RS232 = balanced, ethernet = unbalanced

Conducted RF: IEC61000-4-6, 10 Vrms

Magnetic Field: IEC61000-4-8, 100 A/m, 1000 A/m (1 sec)

Dips and Interrupts: IEC61000-4-11, Criteria A/B/C

Oscillatory: EN61000-4-12, 2.5Kv common and differential mode

Low Frequency conducted: EN61000-4-16, 30V 60s, 300V 1s, 15Hz-150KHz @ level 3

Standard Safety Certifications

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

NEBS GR-1089-CORE ISSUE 4 (Level 3, Type 2 and Type 4)

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 - G168387

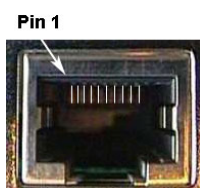
ECCN - 5A992

HTSUS Number: 8471.80.1000

Perle Lifetime Warranty

Serial Connector Pinout

IOLAN DTE



RJ45 Socket

IOLAN RJ45 Socket	Direction	RS232	RS422	RS485 Full Duplex	RS485 Half Duplex
1	→	RTS	TXD+	TXD+	Data+
2	→	DTR			
3	→	TXD	TXD-	TXD-	Data-
4	---	GND	GND	GND	GND
5	---	GND	GND	GND	GND
6	←	RXD	RXD+	RXD+	
7	←	DSR			
8	←	CTS	RXD-	RXD-	

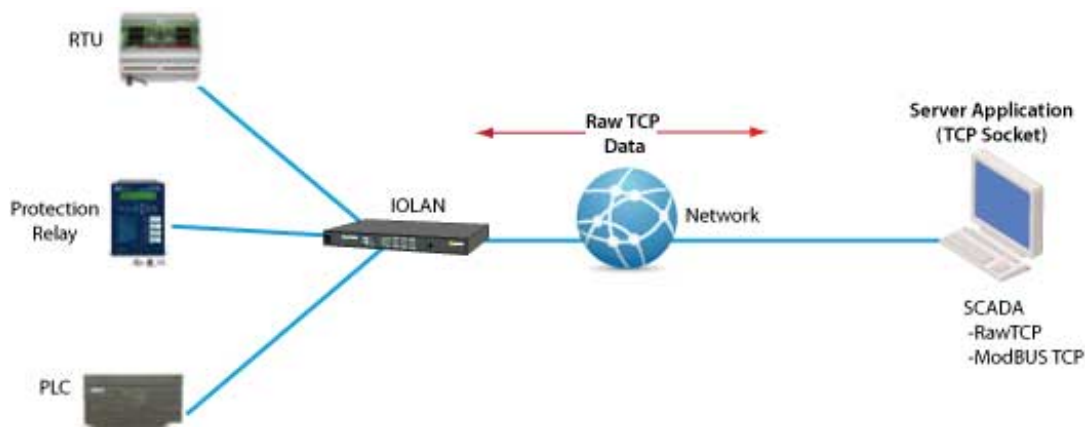
A "rolled" CAT5 cable will automatically perform DTE to DCE crossover

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

TCP

Using RAW TCP Sockets

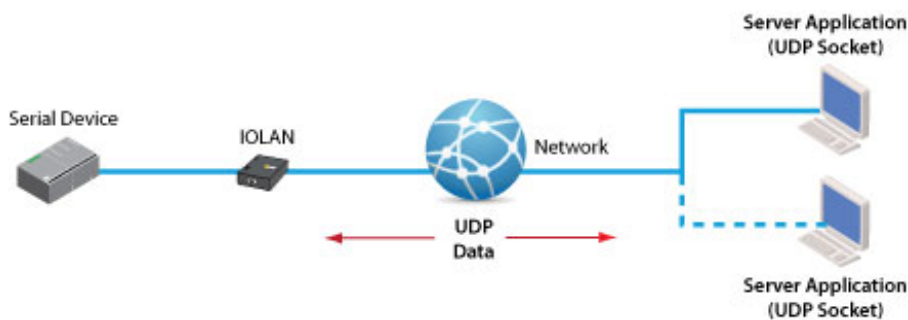
A raw TCP socket connection which can be initiated from the serial-Ethernet device or from the remote host/server. This can either be on a point to point or shared basis where a serial device can be shared amongst multiple devices. TCP sessions can be initiated either from the TCP server application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



UDP

Using Raw UDP Sockets

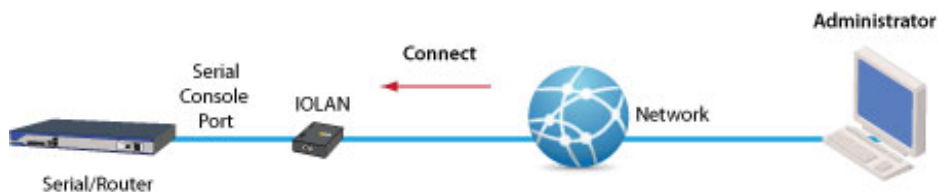
For use with UDP based applications, Perle IOLANs can convert serial equipment data for transport across UDP packets either on a point to point basis or shared across multiple devices.



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 (Ethernet 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.

