IOLAN SCS Console Server

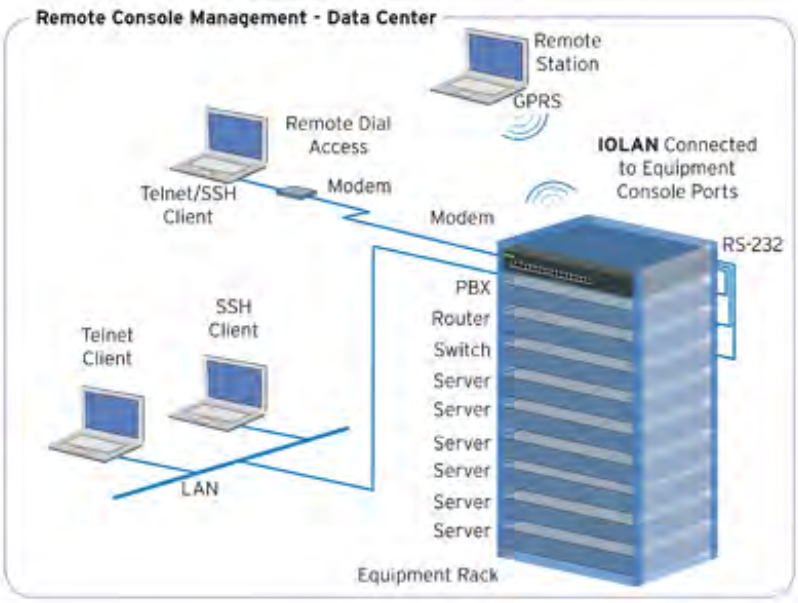
perle.com/products/iolan-scs-terminal-server.shtml

- 8, 16, 32 or 48 RS-232 serial port interfaces
- Dual 10/100/1000 Ethernet support with Redundant Path Technology
- PCI Slot for integrated out-of-band access
- Advanced AAA security and encryption to meet all data center compliance policies

IOLAN SCS Console Servers have a truly fault tolerant design to minimize downtime and provide reliable, secure remote device management. With built-in dual Ethernet and Redundant Path technology the IOLAN SCS provides assured serial console port access, offering the most reliable solution for managing data center and remote branch equipment… all at the best price performance.

Why IOLAN SCS Console Servers are the preferred choice:

- High performance 400 MHz, 750 MIPS, 32 bit processor with integrated hardware encryption processor for the best throughput
- Clustering – Provides a single view of all out of band console ports. Ideal for large data centers
- Intelligent Power cycling of equipment with Perle Remote Power Switches
- Next Generation IP support (IPv6) for investment protection and network compatibility
- 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
- FIPS 140-2 – Cryptographic modules meet US Government NIST compliancy
- Dynamic DNS – Easy console management access from anywhere on the Internet
- 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



Secure Serial Console Management

IOLAN SCS Console Servers enable administrators to securely access remote serial console ports on equipment such as PBX, servers, routers, network storage equipment and security appliances through an IP network. Data management information is protected through standard encryption tools such as Secure Shell (SSH) and Secure Sockets Layer (SSL). Access by authorized users is assured via authentication schemes such as RADIUS, TACACS+, LDAP, Kerberos, NIS and RSA Security's SecurID tokens.

By using encryption technologies, an IOLAN Console Server protects sensitive and confidential data before being sent across a corporate Intranet or public Internet. For compatibility with peer encryption devices, all of the major encryption ciphers such as AES, 3DES, RC4, RC2 and CAST128 are fully supported.

Recognized as the most secure method for communicating to remote private networks over the Internet, the IPSec standard provides robust authentication and encryption of IP packets at the network layer of the OSI model. As a standard it is ideal for multi-vendor interoperation within a network, providing flexibility and the ability to match the right solution for a particular application.

High Availability Access

The IOLAN SCS has built-in fault tolerant capabilities to ensure secure and reliable access for managing important mission critical equipment. Dual Ethernet interfaces on the IOLAN SCS provide redundant network paths while dual AC power supply models ensure that console management is available even if the primary AC power source fails. For remote administrators that require access from home, on the road or in the event of a total network failure, an optional IOLAN V.92 modem card delivers a solid, integrated solution with direct phone line attachment via its onboard RJ11 jack.

Protection against electrostatic discharges and power surges is provided with robust 15Kv ESD protection circuitry on each serial port.

Advanced IP Technology

With support for Next Generation IP (IPv6) the IOLAN range provides organizations with investment protection to meet this rapidly growing standard.

Demand for IPv6, which is compatible with IPv4 addressing schemes, is driven by the need for more IP address. With the implementation and rollout of advanced cellular networks, a robust method is needed to handle the huge influx of new IP addressable devices on the Internet. In fact, the US Department of Defense has mandated that all equipment purchased be IPv6 compatible. In addition, all major Operating Systems such as Windows, Linux, Unix and Solaris, as well as routers, have built-in support for IPv6.

It is therefore important for end users and integrators to select networking equipment that incorporates the IPv6 standard. The IOLAN line with support for IPv6 already built in, is the best choice in serial to Ethernet technology.

Lifetime Warranty

All Perle IOLAN SCS models are backed by the best service and support in the industry including Perle's unique lifetime warranty. Since 1976 Perle has been providing its customers with networking products that have the highest levels of performance, flexibility and quality.

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. Perle supports the most comprehensive driver set in the industry. 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 SCS Fault Tolerant AC Models

	SCS8C	SCS8C DAC	SCS16C & SCS16C-DSFP	SCS16C DAC & SCS16C-DSFP DAC	SCS32C	SCS32C DAC	SCS48C	SCS48C DAC
Processor	MPC8349E, 400 Mhz, 750 MIPS							
Memory								
RAM MB	64	64	64	64	128	128	128	128
Flash MB	16	16	16	16	16	16	16	16
Interface Ports								
Number of Serial Ports	8	8	16	16	32	32	48	48
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							
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	Dual 10/100/1000-base TX Ethernet RJ45 (on all models except SCS16C-DSFP) SCS16C-DSFP: Dual SFP Slots for Copper or Fiber Network Connection							

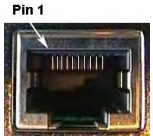
	Software selectable Ethernet speed 10/100/1000, Auto
	Software selectable Half/Full/Auto duplex
Ethernet Isolation	1.5Kv Magnetic Isolation
Integrated Modem	Optional V.92 modem card available with RJ11 jack
Integrated Wireless	Optional USB Adapter Card for integration of 3rd party wireless USB Modem Sticks (3G) Optional PC Adapter Card for integration of 3rd party wireless PCMCIA cellular cards (GSM/GPRS/3G)
Fiber Support	Dual SFP slots are available on the SCS16C-DSFP model. For all other models, Perle supports 3rd party Gigabit Fiber Cards via the standard PCI Interface Slot. Alternatively, connect a Perle Standalone Media Converter to the IOLAN SCS Ethernet port for Fiber to Ethernet conversion.

Power	SCS8C	SCS8C DAC	SCS16C & SCS16C-DSFP	SCS16C DAC & SCS16C-DSFP DAC	SCS32C	SCS32C DAC	SCS48C	SCS48C DAC
Redundant Power		Dual power supply		Dual power supply		Dual power supply		Dual power supply
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)	0.17	0.20	0.18	0.21	0.19	0.22	0.2	0.23
Current Consumption @ 240v (Amps)	0.07	0.08	0.08	0.09	0.08	0.09	0.08	0.09
Typical Power Consumption (Watts)	17	19.5	18	20.5	19	21.5	20	22.5
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)	58	67	62	70	65	74	69	77
MTBF (Hours)*	130539	99587	122926	95094	111053	87829	115980	90884
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	1U - 19" rack, front and rear mounting hardware included							
Product Weight and Dimensions								
Weight	3.0 kg	3.2 kg	3.1 kg	3.4 kg	3.2 kg	3.5 kg	3.5 kg	3.6 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	4.0 kg	4.2 kg	4.2 kg	4.4 kg	4.4 kg	4.8 kg	4.5 kg	4.9 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)							
	CISPR 32:2015/EN 55032:2015 (Class A)							
	EN61000-3-2 : 2010, Limits for Harmonic Current 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
Safety	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. 60950-1-03 and ANSI/UL 60950-1, First Edition April 1st 2003 (Recognized Component)
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 Limited Lifetime warranty

IOLAN DTE



RJ45 Socket

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

(A rolled RJ45 cable will automatically perform DTE to DCE crossover)

Optional Perle adapters for use with straight thru CAT5 cabling

Part Numbers for existing customers who want this product with traditional IOLAN pinouts

*Calculation model based on MIL-HDBK-217-FN2 @ 30 °C

Hardware Specifications - IOLAN SCS Fault Tolerant 48v DC Models

	IOLAN SCS8C DC	IOLAN SCS16C DC	IOLAN SCS32C DC	IOLAN SCS48C DC
Processor	MPC8349E, 400 Mhz, 750 MIPS			
	Memory			
RAM MB	64	64	128	128
Flash MB	16	16	16	16
	Interface Ports			
Number of Serial Ports	8	16	32	48
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	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	10/100/1000-base TX Ethernet RJ45			
	Software selectable Ethernet speed 10/100/1000, Auto			
	Software selectable Half/Full/Auto duplex			
Ethernet Isolation	1.5Kv Magnetic Isolation			
Integrated Modem	Integrated V.92 modem - RJ11 jack			
Integrated Modem	Optional V.92 modem card available – RJ11 jack			
Integrated Wireless	Optional USB Adapter Card for integration of 3rd party wireless USB Modem Sticks (3G) Optional PC Adapter Card for integration of 3rd party wireless PCMCIA cellular cards (GSM/GPRS/3G)			
Fiber Support	Perle supports 3rd party Gigabit Fiber Cards via the standard PCI Interface Slot. Alternatively, connect a Perle Standalone Media Converter to the IOLAN SCS Ethernet port for Fiber to Ethernet conversion.			
	Power			
Power Supply	Dual Feed -48v DC A and B Input			

Nominal Input Voltage	48 VDC			
Input Voltage Range	36-72 VDC			
Current Consumption @ 36v (Amps)	0.25	0.28	0.45	0.5
Current Consumption @ 48v (Amps)	0.19	0.21	0.34	0.38
Current Consumption @ 72v (Amps)	0.13	0.14	0.22	0.25
Typical Power Consumption (Watts)	9	10	16	18
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)	31	34	55	62
MTBF (Hours)*	118622	112256	94603	80743
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	1U - 19" rack, front and rear mounting hardware included			
Product Weight and Dimensions				
Weight	3.0 kg	3.0 kg	3.2 kg	3.5 kg
Dimensions	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	4.0 kg	4.0 kg	4.1 kg	4.1 kg

Regulatory Approvals	
Emissions	FCC Part 15, Subpart B, Class A
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	EN61000-4-5: Surge
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	EN61000-4-8: Power-Frequency Magnetic Field
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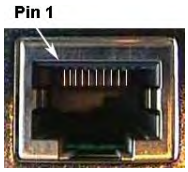

RJ45 Socket

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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.