PCS-9884

Managed Ethernet Switch

The PCS-9884 is a 4U 9.5” managed Ethernet switch adopting modularized conception for severe environments. It supports high data transmission rate to meet the increasing requirements in substation automation system (SAS), networked control system (NCS), distributed control systems (DCS), industrial system, etc. Especially, it supports HSR (High-Availability Seamless Redundancy) and PRP (Parallel Redundancy Protocol) network architecture.

Function

Ethernet Switching

- 10/100Mbps self-adaptive electrical Ethernet ports
- These ports are compatible with the 10BASE-T/100BASE-TX standard and are self-adaptive for crossover and straight-through network cable. MDI/MDIX automatic identification is supported.
- 100Mbps fiber port adopting SFP socket
- The SFP transceiver complying with IEEE 802.3 100BASE-FX standard can be hot plugged.
- The switching mode is non-blocking store and forward
- Support of IEEE 802.3x flow control

Flow Control

- Network storm suppression
- The upper rate limit of broadcasting/multicasting/addressing-failure message is configurable.
- Port rate limitation
- The message forwarding rate and burst rate of each port is configurable.
- Port mirror
- Monitoring the inflow/outflow data of all the ports can be realized through one designed port.
- Link aggregation
- Link aggregation can be based on port number, MAC address, etc.

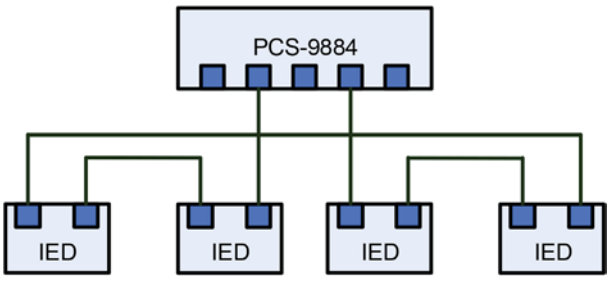

Figure 1 HSR network architecture

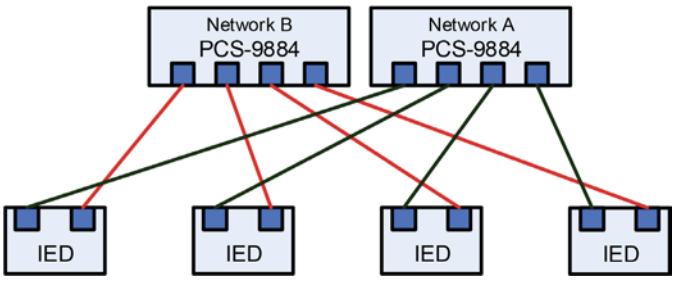

Figure 2 PRP network architecture

- Quality of service (QoS) control
- The message priority control based on IEEE 802.1p is supported, including the strict priority strategy and the weighted priority strategy.

VLAN

- Support of VLAN based on port
- Support of VLAN based on IEEE 802.1Q
- Support of overlapped VLAN configuration

Ring Network

- Support of STP (IEEE 802.1D), RSTP (IEEE 802.1w) and MSTP ring network protocol so as to fast switch to a backup link in case of link failure
- Support of High-Availability Seamless Redundancy (HSR) protocol to realize self-healing and zero-packet-loss in ring network architecture
- Support of Parallel Redundancy Protocol (PRP) to realize transmission standardization for double network architecture

Multicast

- Support of VLAN multicast based on IEEE802.1Q
- Support of static multicast management based on MAC address
- Support of IGMP snooping dynamic multicast management

Port Security

- Support of port security certification based on static MAC address
- Support of port security certification based on IEEE 802.1X
- Support of network security protocol based on SSL/SSH
- Support of Telnet function
- Free of DoS attack
- Support of security log and operation log

File Management

- Support of uploading and downloading of Ethernet switch configuration file
- Support of PC downloading of Ethernet switch log and event file

Management Method

- Support of WEB Server, Telnet and CLI
- Support of SNMP V1/V2C/V3
- Support of RMON
- Support of IP conflict detection

Features

- The PCS-9884 series Ethernet switches adopt high-performance switching chip and excellent industrial design to keep the line speed forwarding under full duplex and full rate operation of all the ports. The design and manufacturing of this device has fully considered various adverse conditions and interference factors in industrial applications to ensure a reliable data transmission under harsh environments.
- This device is suitable for the network process application that matches IEC 62439-3 requirements such as PRP and HSR.
- The adoption of structure design in plug-in modules permits de configuration flexibility in different applications
- The Ethernet port number can be freely configured to fulfill all kinds of engineering demands.
- The dual load-sharing hot-swappable power supplies technology is supported for both AC and DC power supply.
- The processing capacity guarantees a handling of any report message (64~1518 bytes) without any loss of package.
- VLAN, traffic prioritization, RSTP, port security, GMRP/GVRP, IGMP snooping are supported to meet the process level network requirements in a digital substation.
- The port security strategy based on static MAC address or 802.1X guarantees the access security of connected IEDs.
- SSL/SSH is supported, so as to ensure the security access control.
- Support of static multicast management so as to make the flow control more transparent and reliable
- The device is designed as an industrial managed Ethernet switch with abundant functions (e.g.: port flow control, network storm limitation, port mirroring, SNMP, RMON, WEB, port trunking, SNTP, etc.).