

VirtualWisdom[®] SAN Performance Probe

Model ProbeFC8

Virtual Instruments products provide an unprecedented scope of diagnosis and prevention capabilities for complex, heterogeneous Fibre Channel Storage Area Networks (SANs)



VirtualWisdom SAN Performance Probe

- I/O performance, SAN latency measurement
- Storage protocol faults and failing device detection
- Congested ports and unauthorized traffic on a SAN link detection
- Tiered monitoring architecture enabled by a VirtualWisdom Rover extends the monitoring reach of the ProbeFC8
- Hot-swappable redundant power supply for increased reliability
- Air flow switchable, front-to-back, back-to-front, with field replaceable fans
- External vertical cable managers
- Front LCD panel for user interaction

The Virtual Instruments VirtualWisdom SAN Performance Probe Model ProbeFC8 analyzes every frame on a fibre channel SAN at speeds for up to 8 Gbps. A single SAN Performance Probe can be dedicated to up to 8 SAN links, or, using a VirtualWisdom Rover, can rove among many more. The solution provides detailed measurement and statistics about storage I/O traffic as it relates to an application server, storage subsystem, remote replication, virtual or other key SAN device, or application.

The SAN Performance Probe detects application performance slowdowns by measuring every SCSI I/O transaction from start to finish, for both reads and writes. Exchange Completion Time (ECT) metrics are maintained for every server/volume combination (initiator/target/LUN). The SAN Performance Probe can measure latency through wide-area networks and from servers to storage subsystems. A baseline of metrics can be created to verify that there is no impact after server OS or device firmware upgrades, zone modifications, or other changes to the SAN.

Congested storage ports can be identified from the SAN Performance Probe queue depth metrics. VirtualWisdom measures queue depth by monitoring the number of active and pending SCSI exchanges to the same target port. Overrunning storage queues can impact the performance of the entire SAN. Failing SCSI devices can be proactively detected by monitoring link errors and SCSI operation errors using the SAN Performance Probe.

The VirtualWisdom SAN Performance Probe can simultaneously monitor up to 8 fibre channel links. Probes contain algorithms that correlate end-to-end storage traffic between a server and a storage volume. Metrics are calculated within the probes for every active Initiator/Target/LUN (ITL) nexus, including SCSI frame analysis, elapsed time from SCSI read to first data, time elapsed for each complete read or write exchange, and the number of simultaneous open exchanges. Probes also detect fibre channel faults, SCSI errors, and device faults. An Ethernet connection allows the probes to communicate with the VirtualWisdom Server. A summary of changed metrics is reported to the VirtualWisdom Server every second.

Specifications

CONNECTIONS

- SAN Link Connectivity: Probes connect to SAN links via Virtual Instruments SANInsight TAPs or TAP Patch Panel Systems. TAPs are passive, thereby protecting the SAN link from any sort of disruption which might be caused by the SAN Performance Probe or its connections (due to reboot, power-down, intentional disconnection of the Probe from the SAN, cable or signal issues, etc.).
- Protocol Analyzer Connectivity: Probes can be connected to a Virtual Instruments Protocol Analyzer for additional VirtualWisdom analysis functionality.
- VirtualWisdom Portal Connectivity: the SAN Performance Probe connects to the VirtualWisdom server platform via Ethernet to transfer calculated SAN metrics to the portal for saving to the database, reporting and display.

MECHANICAL DIMENSIONS

- Height: 3.5 inches (8.9 cm), 2U
- Depth: 21" / 53.5 cm (excluding front and rear panel projections). Maximum projection from front face 0.5 in / 1.27 cm, from rear face 1.0 in / 2.54 cm. Recommended minimum clearance for cable bend radii 4.5 in / 11.43 cm front and 3.5 in / 8.89 cm rear.
- Width: 17.4 inches / 44.2 cm (excluding rack mounting)
- Weight: 40 lbs / 18 kg (approx)

INDICATORS

- Status | Temp | Ready | Power | Power on 4 LED 'ladder' next to LCD
- 32 SFP LEDs for link status
- Detailed status and configuration on 4 line x 20 column character mode LCD with 6 button keypad

CONNECTIVITY

- 1x RJ45 Gigabit Ethernet on rear panel
- 1x RJ45 Gigabit Ethernet and 1x USB A female port on front panel (reserved for management and not typically used)
- 3 x SMA on front panel (for potential future functionality)

ENVIRONMENTAL

- Operational: +10 to +40° C (50° to +104° F), max gradation 10° per hour
- Operating Humidity: 20% to 80% non-condensing, max gradation 20% per hour
- Non-Operating Temperature: -20 to +80°C, (-4° F to 176° F) max gradation 20°C per hour
- Non-Operating Humidity: 5% to 95% non-condensing, max gradation 20% per hour

COMPLIANCE

- EMC: FCC Part 15 Subpart B Class A, CE (EN 55022/EN55024), SAFETY: Certified to UL/EN/IEC 60950-1

POWER

- Input Voltage: 100-240V AC
- Input Frequency 50/60 Hz
- Current Rating 7/3A
- Normal Operating Power 350W
- Inrush Current 60/80A @ 115/230V (25° C)



VirtualWisdom dashboard



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