

# STORAGE SWITZERLAND BRIEFING REPORT

## VIRTUAL INSTRUMENTS INTRODUCES VIRTUALWISDOM 3.0 & 8GB FC SAN MONITORING PROBE



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[Virtual Instruments](#) recently released significant upgrades to their VirtualWisdom product family. This hardware and software solution provides real-time, continuous monitoring for Fibre Channel (FC) SAN infrastructures to help reduce application performance problems and optimize storage and networking investments. The hardware SAN Performance ProbeFC8 is a major redesign of the former ProbeFCX, providing support for 8Gb FC, a number of new SAN metrics, and more enterprise-class functionality. VirtualWisdom 3.0 is an upgrade to the VirtualWisdom software suite that interprets and displays data from the three VirtualWisdom probes: the SAN Performance Probe, the software based SAN Availability Probe and the software-based Virtual Server Probe.

At the heart of the Virtual Instruments technology is real-time Fibre Channel (FC) fabric monitoring using hardware Traffic Access Points, or TAPs. These passive optical components provide a copy of the live signal traveling over a FC link, allowing very thorough, out-of-band analysis by the ProbeFC8. In this process, the ProbeFC8 extracts the headers rather than data payloads, to provide complete insight into the performance of all SCSI I/Os traveling across the link. This metadata supplies real-time transaction intelligence to the VirtualWisdom software

which combines and interprets it to display application performance latency, utilization data, and transmission errors between servers, storage and network components throughout the SAN.



SAN Performance Probe Model ProbeFC8

The ProbeFC8 is a new, higher speed, purpose-built SAN analysis device that processes the optical signal from the TAPs. As a replacement for the original ProbeFCX, it can support 8Gb FC, simultaneously monitoring up to eight FC links. With an integrated physical-layer switch, called a “Rover”, users can extend each ProbeFC8 across 72 or more SAN links. This device provides any-port-to-any-port, non-blocking, timeshared multiplexing that is automated by VirtualWisdom.

Virtual Instruments' market is companies that have FC SANs. While these aren't exclusively large companies (although a majority are), this group certainly includes organizations firmly in the "enterprise" category. The often-extensive infrastructure these companies deploy must provide high availability, high reliability, and high performance, so it follows that the monitoring systems they use need to be 'always on' as well. This is the use case that the new ProbeFC8 was created for.

Truly an enterprise data center component, the SAN Performance Probe is designed for a 24 x 7 environment, with a number of high availability features. It has redundant, hot-swappable power supplies, redundant fans and a configurable airflow. The ProbeFC8 is also remotely monitored and upgraded through the VirtualWisdom software.

### VirtualWisdom 3.0

Virtual Instruments also released version 3.0 of the VirtualWisdom software suite, which includes the VirtualWisdom Server, the Virtual Server Probe and the SAN Availability Probe software. VirtualWisdom Server controls the collection, analysis, display and reporting of data gathered from the SAN Performance Probe hardware described earlier. It also connects to SAN components and to VMware servers through vCenter, combining data from these three sources to create a comprehensive, real-time troubleshooting and performance optimizing platform.

Version 3.0 offers support for physical and virtual SAN fabrics with automatic fabric discovery. This gives complex environments, for example, companies using I/O virtualization solutions, to have a single pane-of-glass view of their physical and virtual SAN, from the virtual machine to the LUN. With a Virtual Topology tab, it displays the logical fabrics in the SAN in a tree structure, with the ability to drill down on each entity and see information such as Logical Fabric, FCID, WWN, Nickname and Device Type.

Support for access gateways, NPIV and NPV devices through products like Brocade Virtual Fabrics and Cisco VSAN is required by enterprises running large FC SANs. VirtualWisdom's ability to discover and navigate these complex environments from a physical, logical and virtual perspective makes it an even better fit for the customers they serve.

### New Metrics and Enhanced Existing Metrics

VirtualWisdom now supports 25 new metrics, one category of which is in the area of buffer credit management. Together with the SAN Performance Probe, VirtualWisdom can now track buffer-to-buffer credits, which can help identify slow-draining devices, indicating a potential I/O performance bottleneck. Version 3.0 also improves the metrics it has always supported, increasing the granularity of data captured and presenting that data in a context that helps to more quickly identify the affected devices and paths. For example, frame errors used to be lumped together but are now reported in more detail (CRC, EOF, Other). And Logins, Aborts, Rejects, Application and Management MB/sec, Frames/sec are reported by Originator and Responder.

Traditional infrastructure or SAN monitoring tools can give a pretty good picture of what's going on. However, polling a server HBA, switch or storage device every 20 minutes or even every 1 minute, as many of these tools typically do, can miss critical data. This results in the administrator receiving no real information about what's causing latency between an application and its storage device, or an intermittent link failure. It's these blind spots that plague SAN managers who are responsible for maintaining uptime and performance levels in mission critical environments.

Combining real-time data from the hardware SAN Performance Probe with information from software probes monitoring VMware and other fabric devices, gives VirtualWisdom the unique ability to eliminate these blind spots. The real-time, continuous, out of band monitoring provided by FC probes fills in missing data points providing faster problem resolution, better uptime and reduced overall risk.

The “up” in “uptime” refers not only to staying up, but also getting back up when something goes wrong. Both objectives require continuous monitoring of critical systems. Virtual Instruments’ VirtualWisdom can provide this real-time SAN monitoring data. And now with a new 8Gb, enterprise-class hardware probe IT managers can make sure that SAN monitoring doesn’t become their weak link.

### Storage Swiss Take

Keeping a mission critical infrastructure up and running is itself a mission critical function. If a chain is only as strong as the weakest link then the FC SAN supporting a corporation’s online business or vital financial data is vulnerable to the outdated or inadequate monitoring solution it may be relying on. And, even the biggest company may be only a network failure away from this expensive realization.

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