VirtualWisdom®
Virtual Server Probe
Model: ProbeVM

VirtualWisdom provides diagnosis and prevention capabilities for complex, virtualized infrastructures running mission-critical applications.

Software-Based Storage Probe
The Virtual Server ProbeVM enables comprehensive, cross-domain real-time measurement capabilities that allow IT managers to optimize the performance, utilization, and availability of their virtualized IT infrastructure. The Virtual Server ProbeVM adds deep SAN I/O intelligence and operational visibility to VMware deployments, enabling administrators to model ESX/ESXi server performance and better balance the deployment of virtual machines based on real-time measurements and feedback of I/O performance. The Virtual Server Probe is unique in its ability to eliminate the risk of using virtualization with I/O-intensive Tier 1 applications such as VDI (Virtual Desktop Infrastructure) and those based on Oracle®, IBM DB2®, Microsoft SQL Server® or SAP®.

VirtualWisdom is the perfect complement to vCenter as it correlates the vCenter information from the Virtual Server ProbeVM in real-time with actual I/O performance data measured by the Virtual Instruments Performance ProbeFC8 family directly from the SAN infrastructure. Actual measured data from VirtualWisdom enables IT managers to proactively balance the provisioning of applications on virtual machines for maximum application performance with confidence. This high level of virtual I/O visibility makes risk-mitigated optimization and ESX/ESXi server performance modeling possible, enabling mission-critical deployment of virtualized applications possible by verifying performance-based service level agreement (SLA) metrics in real-time.

New VirtualWisdom4 Features
• Entity-based Topology UI
• Datastore mapping
• Advanced reporting and alarms
• Enhanced installation and configuration

Product Features
• Accelerates deployment and reduces risk of implementing virtualized I/O-intensive business-critical applications such as Oracle, SAP, DB2, SQL, and Exchange
• Reduces time spent on problem resolution with early detection of I/O performance bottlenecks and transmission faults
• Reduces overall downtime by generating predictive data on potential virtual infrastructure problems
• Improves virtualized application performance by enabling administrators to optimally balance virtualized workloads based on I/O response time and utilization data, not just CPU and memory utilization
• Lowers overall operating expenses and capital expenses through ESX server modeling and higher utilization of existing server/SAN assets
Using VirtualWisdom and the Virtual Server ProbeVM results in significantly higher virtual infrastructure utilization and helps server and VMware administrators reduce capital and operational expenses associated with an IT organization’s servers and storage. Unlike most server and storage vendor-supplied tools that only look at their own devices, VirtualWisdom looks across all devices: servers, host bus adapters (HBAs), switches, cables, and storage to optimize application performance and the overall utilization of the IT infrastructure.

**New VirtualWisdom4 Features**
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**Product Features**
- Agent-less architecture enables quick deployment with real-time monitoring of virtual machines, physical servers, and clusters
- Collects data on and calculates 170+ different metrics including CPU utilization and status, memory utilization, disk I/O requests and capacity, network requests and utilization
- Enables monitoring, modeling, and optimization of VMware vMotion and Distributed Resource Scheduler for performance and availability based on historical data and trends
- User definable data collection frequency from VMware vCenter as low as every 20 seconds
- Policy-based event notifications

The Virtual Server Probe is agent-less and can be configured to monitor and track I/O from any combination of virtual machines or physical servers at any time. I/O data from the virtual machines and servers are automatically stored on the VirtualWisdom Platform Appliance to enable trend analysis, performance modeling, and policy setting.
What's New in VirtualWisdom4?

VirtualWisdom 4.0’s enhanced entity-centric discovery, user-interface, reporting, and analytics enables IT managers to proactively balance the provisioning of applications on virtual machines for maximum application performance with the confidence that systems will not slow down or fail.

Entity Discovery: ProbeVM will talk to the vCenter API, and retrieve and automatically generate the following entities

- ESX Host (s)
- ESX Cluster(s)
- VM(s)
- Datastore(s)
- ESX HBA port(s)
- NPIV port(s)

Datastore Entities: VirtualWisdom4 discovers and auto-generates the datastore entities, and gets vCenter metrics for the datastore. A datastore is the “virtual file system” (VMFS) on which a VM creates its disk(s). A datastore can map to one or more LUNs on the storage array.

Cluster Entities: VirtualWisdom4 also discovers and auto-generates the ESX Host Cluster entities, and gets vCenter metrics for the clusters. An ESX Host cluster is a collection (grouping) of ESX hosts. By creating a cluster inside vCenter, it allows you to combine multiple ESX hosts in a centralized group, placing all of their CPU and memory resources into a general pool for use by virtual machines. When you add an ESX host to a cluster, the resources will automatically become available for use by the virtual machines.

Topology View

- Visual view of infrastructure and insight into VMware environments
- See the infrastructure path from an ESX to switches to storage arrays

New Metrics

- New datastore metrics by VM/ESX Hosts
- New cluster metrics (vMotion)
- Aggregated datastore metrics based on above

Reports

- Reports on ESX host based on ProbeFC8
- Top X read/write VMs/ESX Hosts on a datastore

Alarms

- Monitoring Port Utilizations (ProbeSW) and ITLs (FC8) on ESX Server Ports

Probe Management

- Polling interval from ESX is automatically discovered
- Subscription: Can subscribe on the ESX host level

The Metrics Collected or Generated

The VirtualWisdom Virtual Server ProbeVM is a virtual software probe that automatically discovers and monitors 170 CPU, memory, network, datastore and disk I/O metrics for VMware ESX/ESXi virtual machines, physical servers, and clusters. The Virtual Server Probe collects information specifically about the utilization and performance of virtual machines within the VMware environment via the VMware vCenter server API. Metrics collected or generated by the Storage Network Probe include:

- Analytic (Calculated) Metrics: VirtualWisdom’s Virtual Sever ProbeVM calculates 8 additional analytic metrics that give users greater insight into the health and utilization of the Virtual Server infrastructure. For example, “CPU Idle Percentage” is calculated to give users an understanding of how well the CPU is utilized over time. This metric is useful in quickly determining where to place new workloads.

- Virtual Machine, ESX Server, and Cluster Metrics: CPU, Memory, Network, Disks, etc.

- Datastore Metrics: Read/Write Latency and frequency, and I/O latency and throughput