

VirtualWisdom® ProbeVM for Hyper-V®

VirtualWisdom correlates and analyzes Hyper-V data with other physical and virtual infrastructure metrics to improve application and system-wide performance

Software-Based Virtual Server Probe

ProbeVM for Hyper-V is an agentless solution that discovers the Microsoft® Hyper-V environment and integrates fully with the VirtualWisdom platform to provide VM to disk LUN visibility. With advanced analytics at their fingertips, IT managers are now empowered to optimize the performance, utilization, and health of their virtualized IT infrastructure running on Hyper-V. ProbeVM for Hyper-V offers the ability to correlate Hyper-V CPU and disk metrics with systemwide infrastructure metrics in order to improve overall application performance. ProbeVM for Hyper-V also enables deep update to SAN/NAS I/O intelligence and operational visibility to Hyper-V deployments, which in turn enables administrators to achieve higher performance and better balance virtual machines deployment based on real-time measurement and analysis of I/O performance.

With ProbeVM for Hyper-V, customers can:

- Correlate real-time data on Hyper-V partitions and storage performance
- Ensure optimum use of server and storage resources
- Identify trends and utilization patterns for key metrics like CPU, memory and I/O
- Give insight into real-time storage metrics and application performance via correlation with other VirtualWisdom Probes
- Rapidly diagnose causes of application slowdowns in Hyper-V environments

Product Benefits

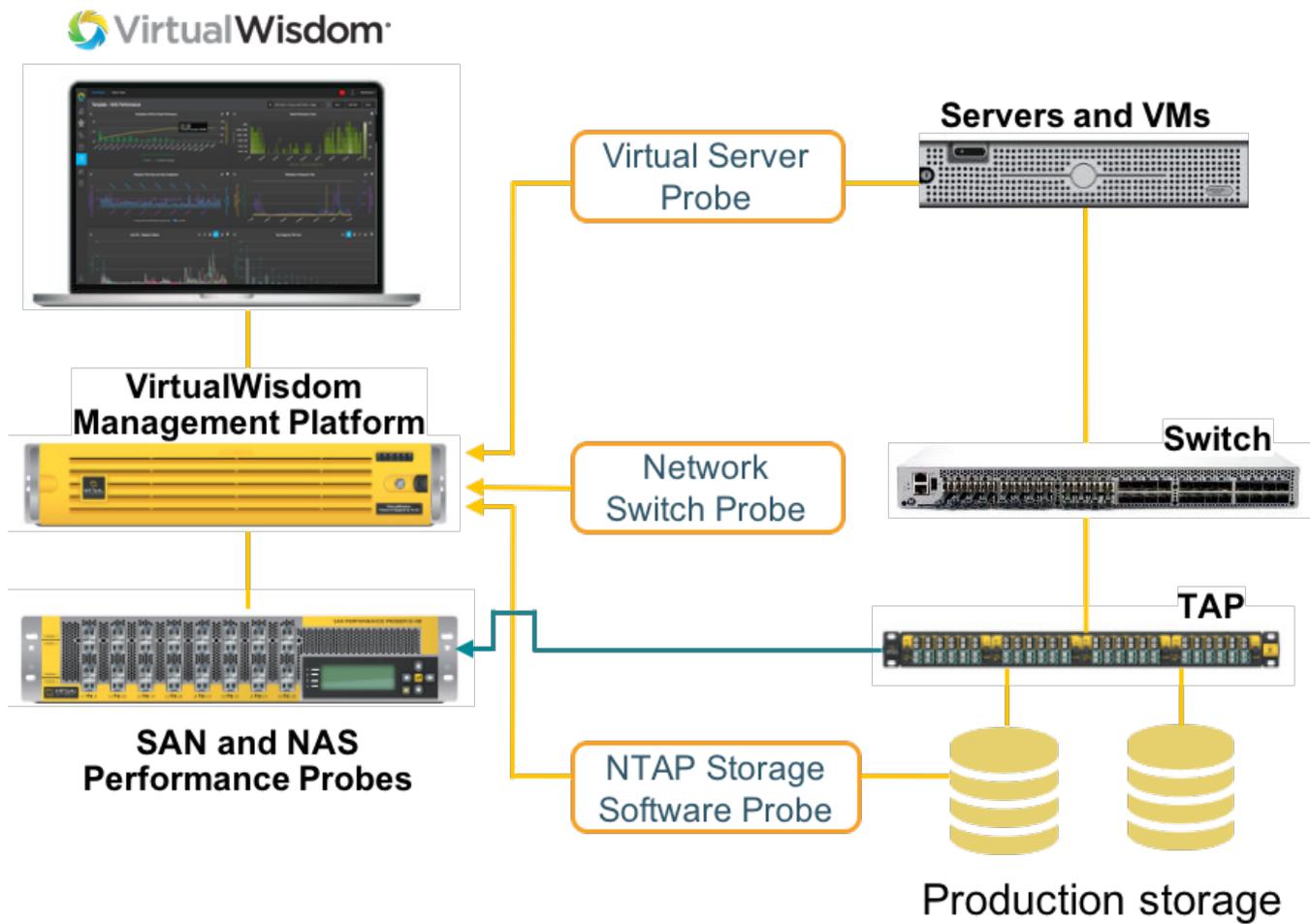
- Analyze performance values for CPU, memory, network, and disk I/O, for Hyper-V VMs during any time frame; all with a higher resolution of data to optimize workload placement
- Achieve better adherence to, and monitoring of, performance and availability SLAs throughout the virtualized infrastructure
- Reduce the number, frequency, and severity of infrastructure tickets through early detection of I/O performance bottlenecks and transmission faults
- Eliminates the need to manually map Hyper-V VM to host to LUN relationships in order to monitor performance at every level
- Overachieve on cost to value by lowering overall operating and capital expenditures and increasing utilization of existing assets

VirtualWisdom makes use of standard Microsoft® Frameworks to correlate host and guest VM metrics with real-time information gathered throughout the infrastructure. Using performance data from VirtualWisdom enables IT teams to identify patterns and ensure compliance with their reference architectures.

VirtualWisdom's Applied Analytics enables proactive application balancing to the underlying infrastructure across virtual machines. This granular I/O visibility makes risk-mitigated optimization and Hyper-V server performance modeling possible, enabling mission-critical deployment of virtualized applications by verifying performance-based service level agreement (SLA) metrics in real-time. Server and Hyper-V administrators who use ProbeVM for Hyper-V are able to reduce and control server and storage related costs. 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.

Product Features

- Agentless architecture enables quick deployment with real-time monitoring of virtual machines, physical servers, and clusters
- Correlates and analyzes hundreds of metrics including CPU utilization and status, memory utilization, disk I/O requests and capacity, network requests and utilization
- Enables monitoring, benchmarking, and optimization of live migration for performance and availability based on historical data and trends
- User-defined data collection frequency from Hyper-V Host
- Policy-based event notifications



The ProbeVM for Hyper-V is agentless 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 correlated with platform data across the open-systems stack to enable trend analysis, performance modeling, and policy setting.

ProbeVM for Hyper-V at a Glance

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

Entity Discovery: ProbeVM for Hyper-V discovers the Hyper-V virtualization infrastructure through the Windows® Management Instrumentation (WMI), and automatically generates the following entities

- Hyper-V Cluster(s)
- Hyper-V Host(s)
- Hyper-V VM(s)
- Host HBA port(s)
- FC Port(s)
- NAS Source IP
- NAS Destination IP

Microsoft's DCOM (Distributed Component Object Model) is used between the ProbeVM and Hyper-V Hosts in order to communicate, allowing discovery of relationships between Hyper-V entities and SAN/NAS layer entities such as HBA, FC Port, IP addresses and WWN.

Topology View

- Visualize end-to-end infrastructure and gain authoritative insights into Hyper-V environments
- See all virtual and physical infrastructure components from a Hyper-V guest, through to its storage LUN

Reports

- Data from multiple sources can be combined into a single dashboard/report, making trends easy to visualize

Alarms

- Case Management framework that enables you to take action based on frequency and urgency of alarms

Probe Management

- The Hyper-V environment is discovered by VirtualWisdom via WMI, removing any need for Microsoft licenses
- ProbeVM for Hyper-V is licensed per Hyper-V Host

The Metrics Generated and Correlated

The VirtualWisdom ProbeVM for Hyper-V automatically discovers and monitors hundreds of CPU, memory, network, and disk I/O metrics for Hyper-V virtual machines, physical hosts, and clusters. The Probe collects information specifically about the utilization and performance of virtual machines within the Hyper-V environment through WMI to each host. Metrics collected or generated include:

- Metrics: for ProbeVM for Hyper-V calculates additional analytic metrics that give users greater insights into health and utilization of virtual server infrastructures, aligning workloads to hosts, and tuning environments to balance resource back pressure.
- Virtual Machine, Hyper-V Host, and Cluster Metrics: CPU, Memory, Network, Disks, etc.
- Disk Metrics: Read/Write latency and frequency, and I/O latency and throughput



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