Solution Brief

virtana

Virtana Data Fabric Observability for SAN Wire Data

The only choice for assuring performance on Storage Area Networks

Virtana Data Fabric Observability for SAN wire data is the industry's gold standard for high-fidelity data collection supporting the big data generated by the world's most critical applications.

- Monitor hundreds of storage links in real-time with unparalleled data ingest capabilities
- Monitor wire-level application conversations over a Fibre Channel SAN with ultra-high performance hardware instrumentation or agentless wire-level monitoring of Cisco 32G Fibre Channel fabric

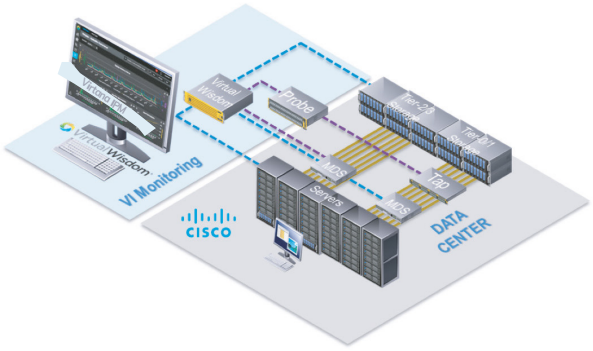

Figure 1: Deployment architecture with optical TAPs and hardware instrumentation

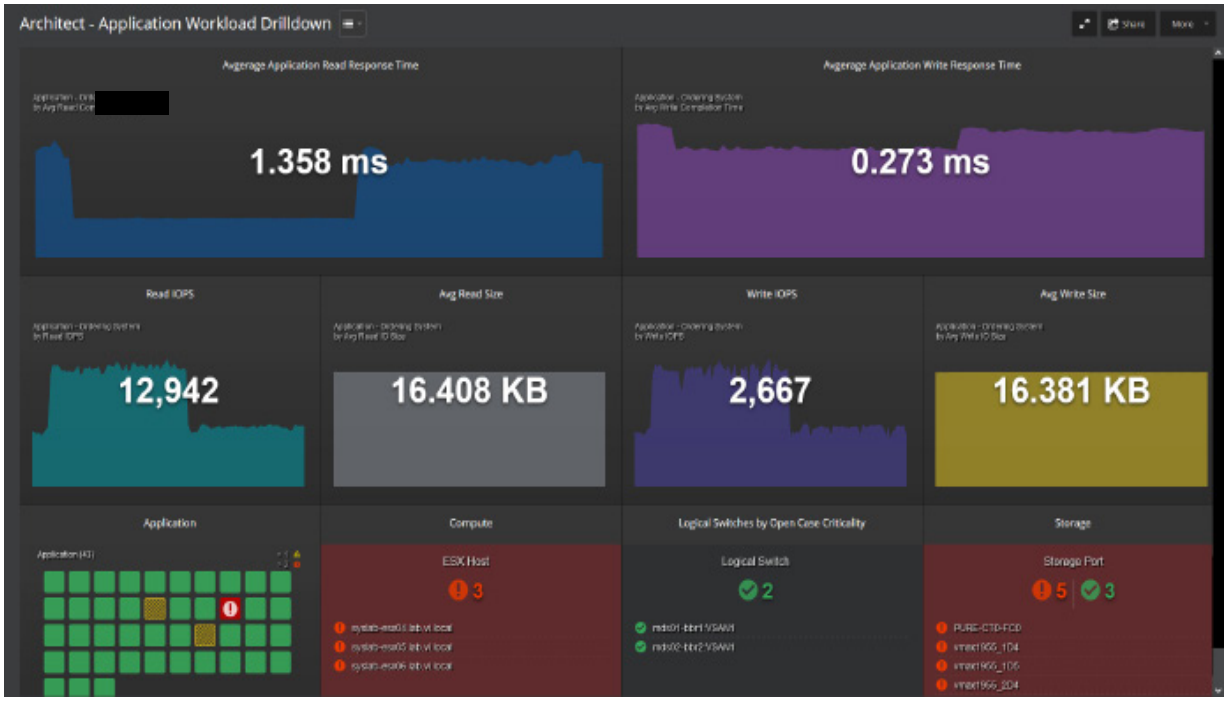

Figure 2: Application workload investigative dashboard

Cisco SAN Analytics integration support

Cisco chose to partner with Virtana as the leading application-centric SAN wire data monitoring vendor. Cisco SAN Analytics provides software-only wire-level performance monitoring of every application conversation in a 32G Cisco MDS SAN without the need for any optical hardware TAPs.

Virtana ingests data from multiple Cisco switches to bring fabric-wide endto-end visibility into a single pane of glass. Virtana also provides long term metric storage, trending, correlation and predictions.

Virtana Instrumentation

Virtana's instrumentation provides real-time, full line rate monitoring for Fibre Channel Storage Area Network (SAN) data fabrics.

Working completely out-of-band, every frame on monitored reports is analyzed with hundreds of metrics reported every second to provide comprehensive, accurate, and vendor agnostic monitoring at the protocol level. The solution accesses wire data using non-intrusive optical TAPs.

The instrumentation is typically deployed on the links between storage ports and switches, or on both sides of fabric-based storage virtualizers.

Connectivity to the live links is provided by traffic access points (TAPs), which use passive optical couplers to access the optical signal on both channels of the link.

A TAP diverts a small amount of the optical power on each channel to a full line rate monitoring output for out-of-band access by the instrumentation.

No data payload is collected out of the FPGA accessible memory. All data is removed from the signal and only the frame headers are processed. The Virtana Platform solution never sees the data payload. Only traffic metrics are communicated to the Virtana Platform.

Monitoring Cisco or Brocade SAN fabrics using Virtana hardware instrumentation

- For the most mission critical application monitoring, the Virtana hardware instrumentation monitors application conversations in real time using 24 ports of 32/16/8/4G Fibre Channel

- Over 400 Fibre Channel and SCSI metrics covering light loss, synchronization, flow control, IOPS, throughput, queue depth, logins/logouts, read/write latency, SCSI status messages, events, failures/ aborts and more at the highest fidelity available in the industry

Virtana Data Fabric Observability for SAN Wire Data

Virtana Data Fabric Observability for SAN Wire Data includes discovery and dependency mapping, event correlation, dashboards and reporting, and embedded analytics for problem detection, workload balancing, and capacity planning, and guided investigation workflows to provide a run-book style of automation.

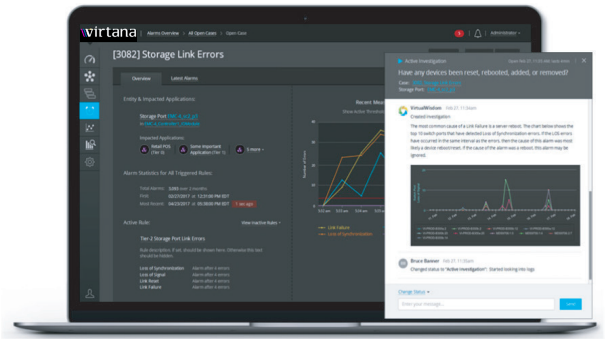

Figure 3: Investigations enable any user to quickly triage, diagnose and resolve issues to avoid outages

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KEY FEATURES

	NetApp	DELL EMC VMAX/ PowerMAX	Dell EMC Isilon	IBM SVC	Pure FlashArray
Infrastructure Discovery and Application Mapping	Automatic	Automatic	Automatic	Automatic	Automatic
Agentless Software-only Monitoring	✓	✓	✓	✓	✓
Access Method	API access (cluster- mode ONTAP supporting NFSv3)	API access (to Dell EMC Unisphere storage manager)	API access (to Dell EMC OneFS API ver. 8.0.0 or later)	SSH and FTP (into SVC master node running SVC ver. 7.7.1.8 or later)	RESTful APIs, 1 minute polling interval, 30 second granularity. Pure Storage Purity environments
Health Metrics	✓	✓	✓	✓	✓
Capacity Metrics	✓	✓	✓	✓	✓
Performance Metrics	NA	✓	✓	✓	✓
Best-practice Alerting NA	NA	✓	✓	✓	✓
Intelligent Problem Resolution	✓	✓	✓	✓	✓