CA Unified Infrastructure Management for Microsoft Hyper-V

Monitoring your Microsoft Hyper-V environments presents a host of challenges that you don't find in your typical Microsoft server deployments. It's a dense, dynamic environment—characterized by hundreds to thousands of VMs that are initiated, moved and terminated as needed by Hyper-V High Availability and Quick Migration events. With CA Unified Infrastructure Management (CA UIM, formerly CA Nimsoft Monitor), your organization gets the capabilities it needs to monitor Hyper-V infrastructures, so you can maximize the performance and availability of these dynamic environments.

Key Benefits/Results

- **Improved performance and uptime.** Proactive monitoring and alerting accelerates identifi cation of performance issues—enabling response before end-user productivity is affected.
- **Enhanced resource optimization.** Centralized, cohesive view of performance delivers insights into opportunities for resource optimization and "right sizing" of hardware investments.
- **SLA compliance.** Instant alerts and realtime dashboards notify service managers in advance of SLA compliance breaches.

Key Features

- **Highly.** Can go from 100 to more than 100,000 devices that eliminates the worry of outgrowing your monitoring solution.
- **Customizable Dashboards.** Configure service delivery information based on roles within the organization.
- **Business metric monitoring.** Enables aggregation of monitoring data from disparate sources to provide current views of critical business services that impact customer experience.
- **Unified trending and root-cause analysis.** Quickly identifies and corrects problems across your entire IT infrastructure before they become performance issues.

Business Challenges

While virtualization technologies like Hyper-V have ushered in a world of potential benefits, they also brought an entirely new world of challenges from a monitoring perspective.

When Hyper-V gets implemented, an entirely new layer of "moving parts" gets added to the mix and dramatically increases the complexity of monitoring business applications and the infrastructure upon which they rely. How can organizations efficiently monitor this virtualized infrastructure? How can they confirm that the virtualized infrastructure and all the applications that run in this virtual environment are optimized?

Solution Overview

With CA UIM for Microsoft Hyper-V, organizations can harness a comprehensive solution for monitoring vital performance metrics in Hyper-V environments. CA UIM enables organizations to monitor and fully optimize their Hyper-V implementations. Plus, with CA UIM, organizations can monitor and manage the operating systems and business applications that run in this virtualized environment—and get insights into the performance end users experience from these business applications. By offering this comprehensive monitoring picture through a centralized solution, organizations can take a more holistic and service-led view of the virtualized environment—and much more effectively optimize the performance, utilization and reliability of the entire infrastructure.

Monitoring OS and apps running on virtual machines

CA UIM offers capabilities for monitoring the following:

- All major Windows and Linux based operating systems
- A host of common business applications, including Microsoft Exchange, Microsoft Active Directory, Microsoft IIS, Lotus Notes, SAP, WebSphere, e-commerce applications and custom-built applications
- All prevalent databases, such as Oracle, Microsoft SQL Server and Sybase.

Critical Differentiators

CA UIM uses a Message Bus Architecture as a core element that is streamlined, comprehensive and efficient. It enables all monitoring components to communicate with each other, without direct program-to-program connections and acts as an abstraction layer between the core system and the monitoring probes. This leads to significant improvements in reliability, scalability and development agility.

Monitoring response times of end-user applications

Through its extensive support for response-time solutions across a range of applications, CA UIM provides vital insights into what is really happening from an end-user perspective.

CA UIM offers a range of capabilities for simulating transactions that end users conduct with business applications. With CA UIM, these simulations are easy to implement and automate, and they yield a wealth of practical insights and alerts if end-user processing is degraded or down.

Critical performance data: When and how it's needed

CA UIM compiles, analyzes and monitors performance data to provide real-time tracking of Microsoft virtualized infrastructures. CA UIM delivers this vital information via alarms, operator consoles, business dashboards, long-term trend reports and SLA compliance reports.

Supported Environments

- Windows Hyper-V Server 2008
- Windows Server 2008 with Hyper-V

Comprehensive coverage. With CA UIM, administrators an monitor the following metrics:

	Host	VM		Host	VM		Host	VM
System			**Network**			**Resources**		
Name	x	x	Total receive throughput	x	x	Logical Processors	x	
Uptime	x	x	Total send throughput	x	x	Network Receive Throughput (per adapter)	x	
Address spaces		x	Packets received (per device)	x		Network Send Throughput (per adapter)	x	
Connected clients		x	Packets sent (per device)	x		Partitions	x	
GPA space modifications per second		x	Physical network adapter name (per device)	x		Running VMs	x	
Virtual processors		x	Receive throughput (per device)	x		Stopped VMs	x	
Virtual TLB flushes per second		x	Send throughput (per device) disk	x		Total Address Spaces	x	
Virtual TLB pages		x				Total Average CPU Idle Time	x	
			Network			Total Average Guest Run Time	x	
CPU			Allocated base size	x		Total Average Hypervisor Run Time	x	
Average CPU utilization	x		Free physical memory	x		Total Deposited Pages	x	
Average CPU idle time	x	x	Free space in paging files	x		Total GPA Space Modifi cations per Second	x	
CPU percent processor time	x		Physical memory allocated	x	x	Total Hardware Interrupts per Second	x	
CPU percent user time	x		Size stored in paging files	x		Total Interrupts per Second	x	
CPU percent privileged time	x		Total visible memory size	x	x	Total Pages	x	
CPU percent interrupt time	x					Total Run Time	x	
Current clock speed (per CPU)	x		**Disk**			Total Virtual Processors	x	
Idle Time (per CPU)	x		Disk kilobytes read	x		Total Virtual TLB Flushes per Second	x	
Utilization (per CPU)	x		Disk kilobytes written	x		Total Virtual TLB Pages	x	
CPU Idle time		x	Page file size	x		Virtual Machine Health Critical	x	
CPU limit		x	Total disk space	x	x	Virtual Machine Health OK	x	
CPU load percentage		x	Used space	x		Virtual Processors	x	
CPU reservation		x	Disk size (per disk)	x		Virtual Switch Receive Throughput	x	
Current clock speed		x	Free space (per disk)	x		Virtual Switch Send Throughput	x	
Guest run time		x	Percent free space (per disk)	x				
HLT instructions cost		x	Read throughput		x	**Resource Pool**		
HLT instructions per second		x	Write throughput		x	Disk Resource Pool Capacity	x	
Hypervisor run time		x	Sectors read per second		x	Disk Resource Pool Health Status	x	
I/O instructions cost		x	Sectors written per second		x	Disk Resource Pool Name	x	
I/O instructions per second		x	Total read throughput		x	Disk Resource Pool Reserved	x	
Page faults per second		x	Total write throughput		x	Disk Resource Pool Status	x	
Page faults cost		x				Memory Resource Pool Capacity	x	
Total run time		x	**Events**			Memory Resource Pool Health Status	x	
			Windows event log monitoring	x		Memory Resource Pool Name	x	
Services						Memory Resource Pool Reserved	x	
Windows service state monitoring	x					Memory Resource Pool Status	x	
						Network Resource Pool Capacity	x	
						Network Resource Pool Health Status	x	
						Network Resource Pool Name	x	

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