



Application-Centric Data Center Infrastructure Monitoring & Analytics

Troubleshoot Business Applications Fast with Full-Stack Visibility

Solution Benefits

Reduce application service down time with one-click root cause insight:

- Troubleshoot in minutes, not hours or days with full-stack application-centric infrastructure analytics
- Eliminate finger-pointing by providing correlated cross-functional forensics
- Protect valuable resources across application, virtualization, server, storage & network teams by eliminating guesswork in the problem area

Assure application peak performance with preemptive service remediation:

- Guarantee peak levels of application response time and 24x7 availability
- Proactively monitor applications from the end user perspective
- Prove root cause domains to data center external factors, i.e., client device, remote site or WAN
- No more setting up cumbersome monitoring for each application and infrastructure elements

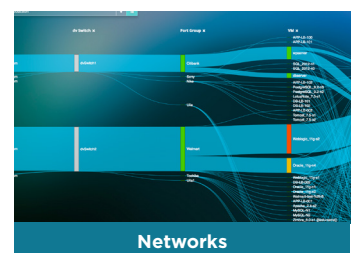
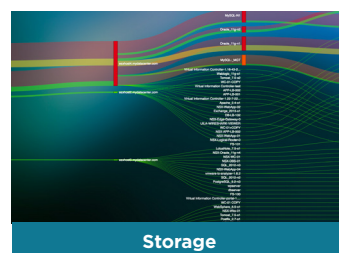
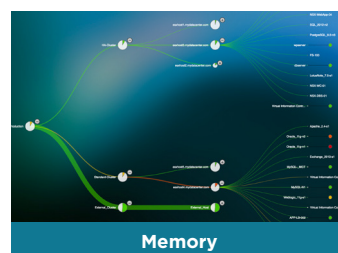
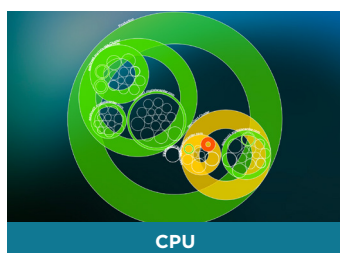
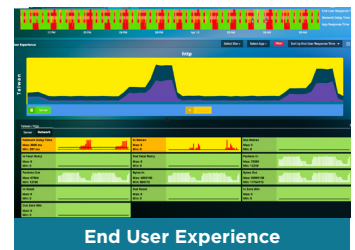
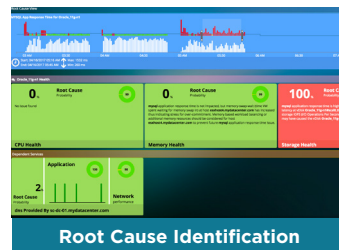
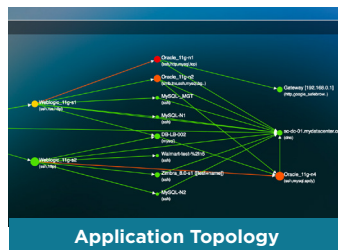
Get more out of existing infrastructure and cut unnecessary spending:

- Critical capacity planning insight into over-provisioned and under-provisioned infrastructure in today's dynamic & diverse workload environments
- Make infrastructure upgrades count -- pinpoint bottlenecks that impact critical applications
- Eliminate complicated, expensive, and disparate monitoring tools that make analysis and troubleshooting slow and dispute-prone



The growing adoption of virtualization and micro-services has given organizations much more flexibility, but multiple layers of obfuscation between the applications and infrastructure make it increasingly difficult for IT staff to identify the root cause of performance issues. Virtualization is also happening across the stack from applications to the infrastructure including servers, storage, and networking. This simplifies IT service deployment dramatically, but creates performance monitoring and management visibility challenges for the IT staff.

Most existing performance management solutions focus on specific components in the stack (application, virtualization or network) and cannot provide end-to-end full stack visibility of the datacenter. Also, modern-day datacenters are not based on monolithic architectures, but have become more complex than ever before. As a result, IT staff spends much of their time fighting fires and trying to identify the root cause, jumping from one tool to another looking for information, and sitting in finger-pointing meetings. In addition, IT staff lacks the end-to-end interdependency analytics and empirical data to make informed decisions about data center optimization and planning.

Uila's Application-Centric Infrastructure Performance Monitoring helps align business and IT Operations goals in a single product by providing IT Operations with the application visibility and correlated network, compute and storage insights for Private, Public and Hybrid Cloud-based Data Centers (such as VMWare, Amazon AWS, Microsoft Azure, Google Cloud, Docker Container, etc.). Uila's full stack visibility and correlated analytics help converge IT silos and ensure peak application performance and accelerated IT project efficiency. Uila's plug-and-play agentless solution monitors everything from the end user experience, application server performance, infrastructure compute, and storage to networking resources - both in the virtual and physical layer.



Uila Full Stack Visibility and Correlation

<p>End User Experience</p> 	<ul style="list-style-type: none"> ✓ End user response time ✓ End user satisfaction ✓ 1-Click root cause identification 	<ul style="list-style-type: none"> ✓ Site by site comparison ✓ Individual client metrics
<p>Application Performance</p> 	<ul style="list-style-type: none"> ✓ App response time ✓ App discovery & availability ✓ OS and process level metrics 	<ul style="list-style-type: none"> ✓ Transaction meta data ✓ App Dependency Mapping ✓ Agentless deployment
<p>Virtualization Management</p> 	<ul style="list-style-type: none"> ✓ VMware, NSX, Hyper-V, KVM ✓ Hyper converged infrastructure ✓ Compute (CPU, memory) health 	<ul style="list-style-type: none"> ✓ Virtual gateway & firewall ✓ Virtual network visibility ✓ Storage (vSAN, SDS) health
<p>Infrastructure Monitoring</p> 	<ul style="list-style-type: none"> ✓ Storage (iSCSI, Fiber Channel, NFS) ✓ All storage vendor support 	<ul style="list-style-type: none"> ✓ Physical servers ✓ Physical switch devices

Feature Highlights

Actionable Application Intelligence and Analysis Optimizes IT Efficiencies with Full-Stack Visibility to respond to the demands of the business, and at the speed the business needs

- **Auto-discover over 4000 applications** with deep packet inspection
- **Application performance monitoring** tracks response time and service level
- **Service availability monitoring** alerts on service disruptions
- **Application dependency mapping** for multi-tier application insights
- **Application transaction metadata** enables inter-departmental collaboration
- **Server OS process level metrics** correlates root cause with application server
- **Full stack visibility** covers application, compute, storage, and network in a unified pane of glass
- **Agentless architecture** is easy to deploy with zero performance impact

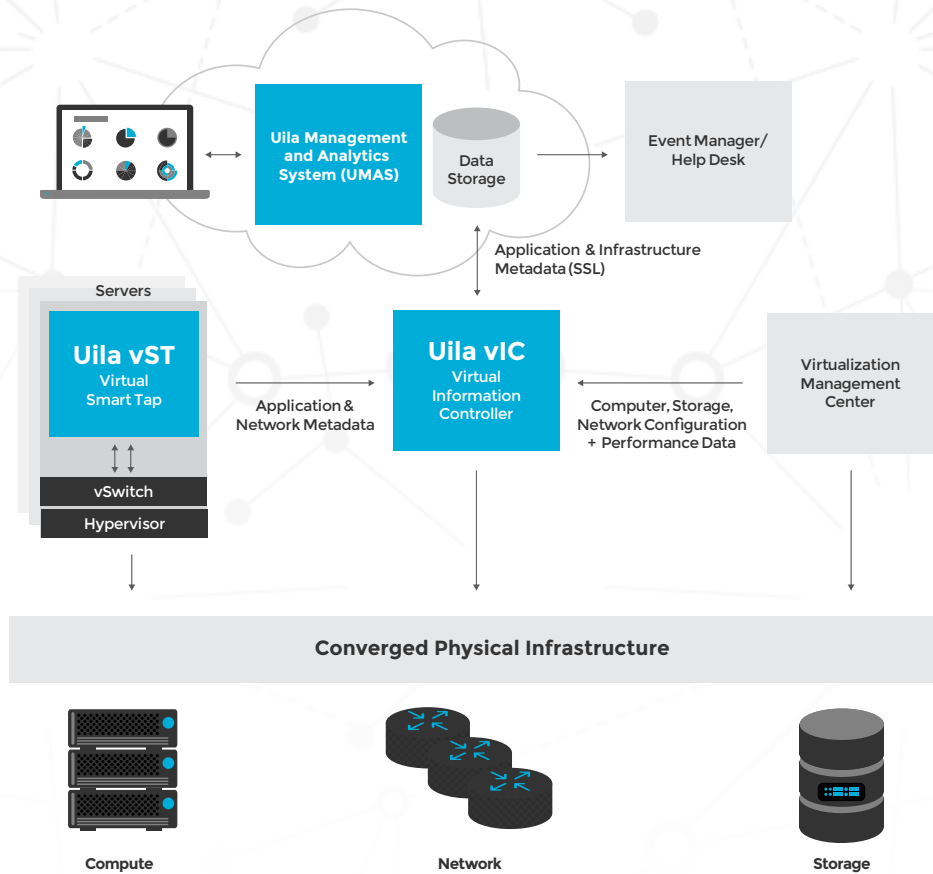
Insightful Analytics & Visualization of Infrastructure Bottleneck on Application Performance

- **1-Click Root Cause** automatically identifies bottlenecks
- **Exonerate infrastructure** with correlated full stack evidence
- **Application-to-infrastructure correlation** bridges the IT troubleshooting gap
- **Infrastructure health visualization** shines a spotlight on application bottlenecks
- **Supports modern infrastructure** including hyper-converged, software defined storage and networking
- **East-west network traffic analysis** eliminates monitoring blind spots
- **Virtualized and physical server monitoring** with OS process level details

End User Experience Monitoring – Be the first to know and fix

- **End user response time tracking** proactively alerts IT to service degradation
- **Response time analysis** breaks down delay by server, network, and clients
- **Site-by-site and client-by-client analysis** isolates and correlates user issues to real root cause
- **1-click root cause** correlates end user issue to real root cause
- **Transaction history** provides metadata for application server issue investigation
- **Network flow analysis** reveals network issues and stress affecting application servers

Architecture & Solution Components



Uila Management and Analytics System (UMAS)

The core of the Uila virtual infrastructure architecture is a big data store and analytics engine that is designed from ground up to scale-out to accommodate large data center deployments with thousands of servers, to scale-in to record data in high resolution, maintain historical data while maintaining real time responsiveness. Built-in redundancy offers high availability, mitigates downtime, and reduces maintenance overhead.

The patent-pending analytics engine is the brain that correlates application to infrastructure performance metric by providing the smarts to pinpoint the infrastructure root cause behind application performance degradation. The trending reports generated from the historical data helps identify infrastructure hot spots, and maintains optimal application performance. The Uila Dashboard offers a simple and yet powerful way to view the results of the analytics engine and reveal the health of applications and the underlying infrastructure in compute, storage, physical and virtual networks.

Virtual Smart Tap (vST)

Virtual Smart Tap (vST) is deployed in a distributed manner across the data center. The vST installs in the host as a small foot print and efficiently designed guest VM where it promiscuously listens to all traffic that traverses the virtual networks (North-South and East-West). Using embedded Deep Packet Inspection (DPI) technology, the vST identifies unique applications and their attributes.

The vST measures application response time, network latency, and other network performance data in meta data form. No packet payload is stored, thus removing the risk of exposing sensitive data. The vST passes this Application & Network Metadata to the Virtual Information Controller (vIC) for further processing and correlating with the infrastructure metadata collected by the vIC.

Virtual Information Controller (vIC)

Virtual Information Controller (vIC) is the integration conduit to the data center Virtualization Management System e.g. VMware vCenter and Docker Container. The vIC retrieves your infrastructure configuration as a template to build Uila monitoring domain and to streamline deployment.

The vIC collects network, storage and compute performance metrics that are maintained by vCenter, combines it with the application and network metadata from all deplo

System Requirements

	CPU	Memory	Storage	Remark
Virtual Smart Tap (vST)	1 vCPU (1 Core)	1 GB virtual memory	2 GB virtual storage, local	
Virtual Information Controller (vIC)	1 vCPU (2 Cores)	4 GB for small deployment with <500VMs 8 GB for medium deployment with 500-1000VMs 16 GB for large deployment with 1000-2000 VMs	8 GB virtual storage, local, thin provision	
Uila Management & Analytics System (UMAS)	1 vCPU (4 Cores)	32 GB virtual memory 24 GB reserved	800 GB by default, local, thin provision	<ol style="list-style-type: none"> 1. Not required for Uila Cloud 2. Default 2-month data retention period 3. Able to expand disk on the fly to accommodate larger DC or longer data retention period

Note: The default requirement is for monitoring up to 1,000 VM and Physical Devices. Refer to Installation Guide or Contact Uila if your deployment is larger than 1,000 units.

Internet Browser	Windows: Firefox, Edge, Chrome OS X: Safari, Firefox, Chrome, Opera Linux: Firefox, Chrome			
Hypervisor	VMware	vSphere ESXi 5.0, or higher vCenter Server 5.0 or higher		
	VMware/NSX	vSphere ESXi 5.5, or higher NSX 6.2, or higher		
	Hyper-V	Standalone or Cluster mode Windows 2012 R2 or higher		
Container	Docker Engine version 17.0.0 EE / CE or later install on Servers: CentOS, Debian, Fedora, Oracle Linux, RHEL, SLES, Ubuntu VMware PhotonOS version 1.0 or later coreOS 1409.6.0			

System SKUs

Description	Remark
Uila AA-IPM Annual Subscription License for x number of pCPU sockets	Including software updates and support (Refer to www.uila.com/support)
Uila AA-IPM Perpetual License for x number of pCPU sockets	Software update and support purchased separately. See PS-AIPM-x
Annual Support for Uila AA-IPM Perpetual License for x number of pCPU sockets	Including software updates and support (Refer to www.uila.com/support)

1. pCPU is a physical socket populated with CPU chipset in a server or host.
2. x starts from 5, 10, 25, 50, 100, 500. Call Uila for additional SKU

About Uila

Uila gives IT infrastructure teams x-ray vision for their data center operations and end user experience. Designed for Private, Public and Hybrid Cloud environments, Uila's Application-Centric Data Center Infrastructure Monitoring and Analytics provide instant visibility into hotspots and bottlenecks in any data center. Uila provides service dependency mapping, full stack correlation with 1-click root cause analysis and patented deep packet inspection technology that understands over 4,000 application protocols for transactional meta data analysis. Businesses use Uila to align themselves with their IT Operations team and cut time to resolution from days to minutes, keep their application at peak performance at all time and ensure end-user satisfaction to the fullest.

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