

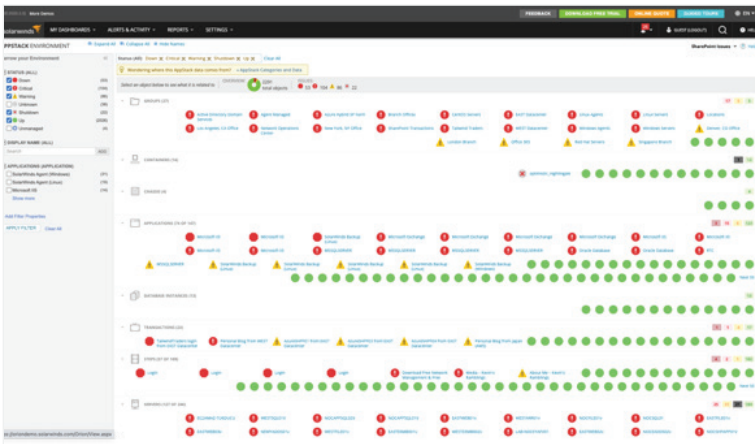
# Full-Stack Application Troubleshooting

## With the AppStack dashboard

The AppStack™ dashboard is an auto-instrumented, interactive visual map designed to display a detailed view of your hybrid IT application stack(s). It presents data in an intuitive application dependency map so you can quickly and easily identify the status and root cause of performance and availability issues. The AppStack dashboard is a valuable shared service of the SolarWinds® Orion® Platform.

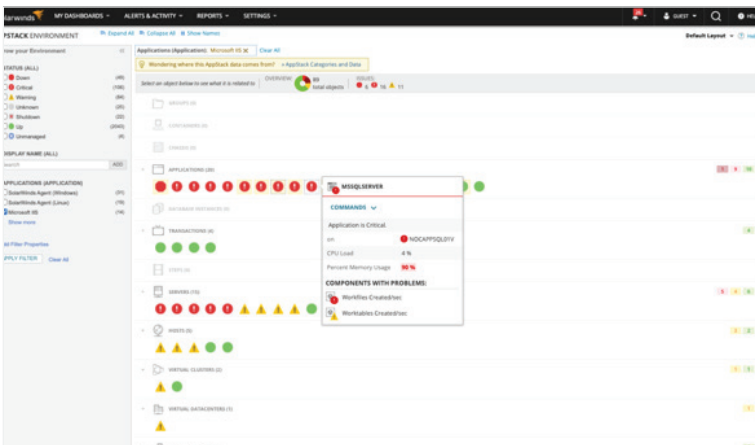
For more information

[solarwinds.com/topics/appstack](https://solarwinds.com/topics/appstack)



## QUICKLY PINPOINT TROUBLES ACROSS YOUR HYBRID IT STACK

With AppStack, you don't need to be an application expert. The dashboard provides valuable troubleshooting insights to a variety of IT professionals, regardless of whether they have intimate knowledge of the application. You can see the application, all the underlying layers upon which it depends, and how they relate to each other. Quickly go from the high-level map down into granular insights and see the health and performance any component by simply hovering over and clicking on a component to aid in troubleshooting and remediation.



*"If a network guy is pointing a finger to a virtualization or storage person, we can now integrate all of those products together in one dashboard (AppStack) and understand what's happening in each of them."*

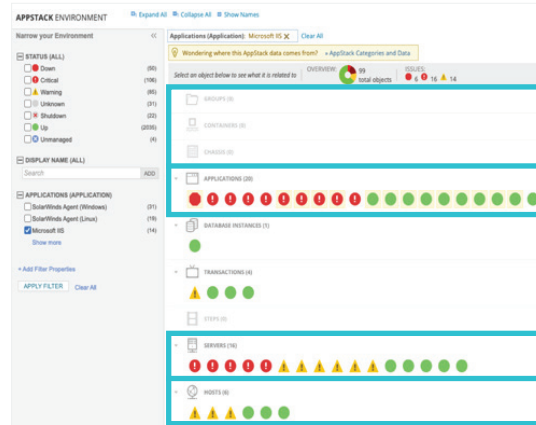
Kasey Koller—  
Program director of technology

**Better insights, better troubleshooting, and better value with every module you add**

## SERVER & APPLICATION MONITOR (SAM)

Health and performance status for the following:

- Applications
- Physical Servers
- Virtual Servers
- Containers
- Chassis
- Hosts
- Direct Attached Volumes



## VIRTUALIZATION MANAGER (VMAN)

Visibility into your virtual infrastructure performance and trends and analysis across your entire virtualized environment.

- Hosts
- Virtual Clusters
- Virtual Data Centers
- Virtual Centers
- Data Stores
- Volumes

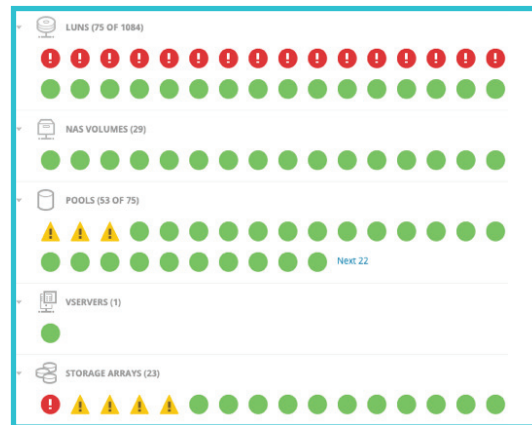


## STORAGE RESOURCE MONITOR (SRM)

Monitors the health status of storage devices along with associated entities of the storage device.

The AppStack Environment reports the status at the storage level in context to the rest of the application stack, and it includes the following: Arrays

- Pools
- Nas Volumes
- Luns
- Vservers



### WEB PERFORMANCE MONITOR (WPM)

See the health of key web transactions. Gain insights into the end-user experience with crucial web applications.

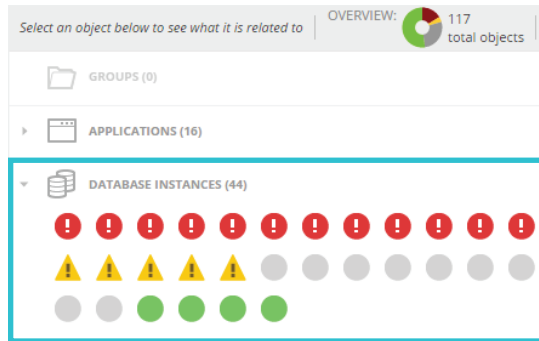
- Transactions
- Transaction Steps



### DATABASE PERFORMANCE ANALYZER (DPA)

When DPA is installed, there's an additional category called Database Instances. Use AppStack to assess the overall health of your database instances and to troubleshoot specific and related problems.

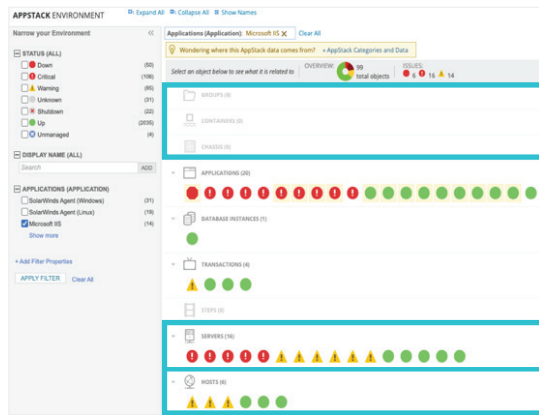
- Database instances



### NETWORK PERFORMANCE MONITOR (NPM)\*

If you don't have SAM but you want to do some basic server monitoring, you can do it with NPM and leverage AppStack. NPM doesn't monitor applications, but it will provide the following in the AppStack dashboard:

- Groups
- Containers
- Chassis
- Servers
- Hosts



*\*NPM infrastructure monitoring will show up in the appstack dashboard as long as one of the other modules—like VMAN, SRM, or WPM—is installed.*

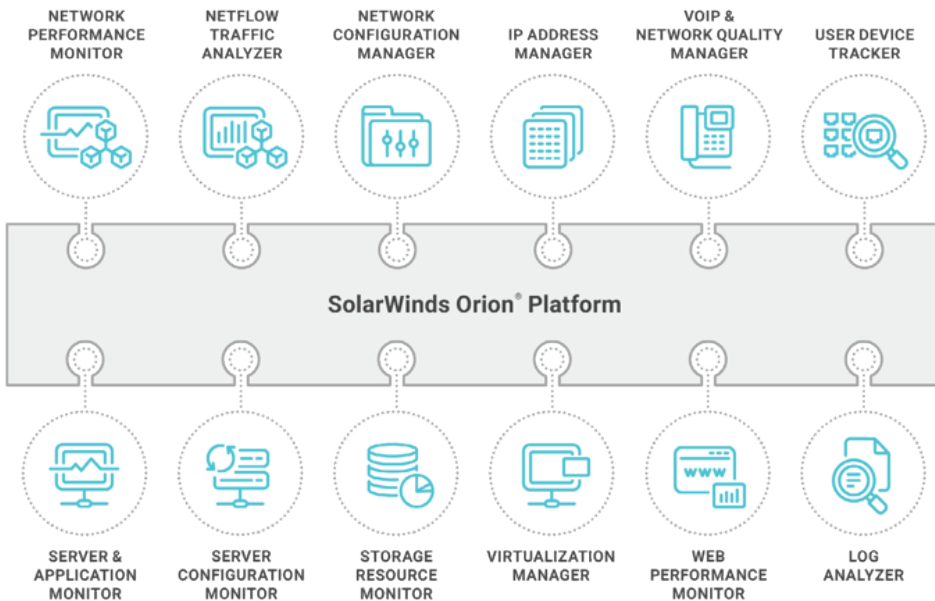
## APPSTACK DASHBOARD CATEGORIES AND DATA DESCRIPTIONS

CATEGORY	SRM	SAM	VMAN	WPM	DPA	NPM	DEFINITION
Groups	✓	✓	✓	✓		✓	Manage your environment by organizing monitored objects logically into <a href="#">groups</a> , regardless of device type or location.
Containers		✓	✓			✓	Lightweight, executable packages of software that include everything needed to run an application: code, system tools, system libraries, and settings. <a href="#">Containers</a> isolate applications and their dependencies into self-contained units that can run anywhere without interfering with each other.
Chassis		✓				✓	A physical structure that houses one or more servers.
Applications		✓					A collection of SAM component monitors grouped together to collect specific metrics concerning the application as a whole.
Database Instances					✓		Database instances including Microsoft SQL, MySQL, and Oracle appear if the <a href="#">SolarWinds DPA Integration Module (DPAIM)</a> is configured in your environment.
Transactions				✓			A recording of web browser steps assigned to a specific location in <a href="#">SolarWinds WPM</a> .
Steps				✓			A collection of actions in a transaction created in WPM. For example, the actions required to navigate to a specific URL make up one step. See <a href="#">How WPM works</a> .
Servers		✓	✓			✓	A computer capable of accepting requests from the client and giving responses accordingly. The server makes services, as access to data files, programs, and peripheral devices, available to workstations on a network.
Hosts		✓	✓			✓	A server running a hypervisor for virtualization that can host multiple VMs.
Virtual Clusters		✓	✓				A group of VMs installed at distributed servers from one or more physical clusters. VMs in a virtual cluster are logically connected by a virtual network across several physical networks. Each virtual cluster is formed with physical machines or a VM hosted by multiple physical clusters. See <a href="#">Monitor your virtual infrastructure in SAM</a> .
Virtual Data Centers		✓	✓				A centralized virtual repository to store, manage, and disseminate data related to a particular body of knowledge or pertaining to a particular business.
Virtual Centers		✓	✓				A server that acts as a centralized management application to manage VMs and ESXi.
Datstores			✓				A repository is a set of data object sets modeled using classes defined in a database schema. A datastore may also contain simpler types such as flat files. Some datstores represent data in only one schema, while others use several schemas for this task.
Volumes	✓	✓	✓			✓	A volume, or logical drive, is a single accessible storage area with a single file system, typically resident on a single partition of a hard disk.
LUNS	✓		✓				A Logical Unit Number (LUN) is used to identify a logical unit, which is a device addressed by the SCSI or SAN protocols that encapsulate SCSI, such as Fibre Channel or iSCSI. A LUN may be used with any device which supports read/write operations, such as a tape drive, but usually refers to a logical disk created on a SAN.

CATEGORY	SRM	SAM	VMAN	WPM	DPA	NPM	DEFINITION
NAS Volumes	✓						Network-attached storage (NAS) is a type of dedicated file storage device that provides LAN users with centralized, consolidated disk storage through a standard Ethernet connection.
Pools	✓					✓	A storage pool (also called a RAID array) is a collection of disk drives that become a logical entity. When you create a storage pool, you select the desired capacity (number of disk drives) and assign a RAID level to it which provides a redundancy level.
VServers	✓						A virtual storage server (VServer) contains data volumes and one or more logical interfaces (LIFs) through which it serves data to clients. A VServer can contain multiple FlexVol volumes, or a single Infinite Volume.  A VServer securely isolates the shared virtualized data storage and network, and appears as a single dedicated server to its clients. Each VServer has a separate administrator authentication domain and can be managed independently by a VServer administrator.
Storage Arrays	✓		✓				Consisting of two or more disk drives built into a stand-alone unit, storage arrays provide increased availability, resiliency, and maintainability by using existing components (such as controllers and power supplies) to the point where all single points of failure are eliminated from the design.
API Pollers		✓					Monitor metrics via external REST APIs by sending automated API requests to poll data from remote APIs.

## THE ORION DIFFERENCE – EMPOWER ONE TO THE JOB OF DOZENS

The Orion Platform is the foundation on which several SolarWinds products are installed, simplifying integration. It provides a common set of services across products—such as a U/I, dashboards, alerts, reports, and more—allowing products to share data for contextual visibility, relationship mapping, and troubleshooting



## ORION SHARED SERVICES

**AppStack** – you can see the application, all the underlying layers upon which it depends, and how they relate to each other. Instead of trying to cobble together this data yourself, the SolarWinds Orion Platform automatically maps it out for you.

**PerfStack** – allows you to drag and drop system, network, logs, event, configuration metrics to visually correlate data from multiple Orion Platform products into a single customized view. It's a digital performance troubleshooting whiteboard, if you will.

**Orion Maps** – helps you quickly see the relationships and connections between the IT services you deliver. It helps isolate and identify critical health and performance issues. With Orion Maps, you can travel back in time to view a map's events and its members—such as downtime, alerts, and status—using historical tracking.

**Orion Platform Dashboards** – presents a default view, includes many out-of-the-box capabilities, and are highly customizable. There are multiple widgets designed to present various information types, from maps to top-ten lists and many more. Users can customize widgets, change their position or layout on the dashboard, and add or remove widgets to suit their needs.

**Alerting** – Create baselines and leverage out-of-the-box alert templates. In addition to having a consolidated view of alerts on the web console and dashboards, SolarWinds Orion Platform customers can also propagate alerts to SolarWinds Service Desk and ServiceNow. This enables the Orion Platform to automatically open tickets based on critical events defined within SolarWinds Orion Platform software.

**Scalability** – On the network side, Orion can scale to 1,000,000 elements before extending to another Orion instance, and SAM can support up to 550,000 nodes. With the Enterprise Operations Console, you can centralize and simplify data management for multiple instances in a single consolidated view.