

# Nimsoft Monitor for Azure

## Insights for Optimizing Scalability and Performance

### Features

- Automatic monitoring of any number of Windows Azure role instances, including dynamic scaling.
- View worker roles, Web roles, and performance monitors through sophisticated, intuitive dynamic dashboards, portals, and reports.
- Integrate Windows Azure monitoring with monitoring of all business services—whether hosted internally or in other cloud environments.

### Benefits

- Add Windows Azure to infrastructure monitoring, with minimal effort and investment.
- Boost Windows Azure implementation reliability through improved visibility.
- Leverage insights into Windows Azure resource usage to maximize value of cloud investment.
- Streamline monitoring reporting and administration.

### The Challenge

The Windows Azure Platform is a flexible cloud computing platform that lets customers focus on addressing business objectives, rather than installing and maintaining IT infrastructures. The Windows Azure platform consists of a set of cloud computing services, namely, Windows Azure, SQL Azure, and AppFabric, that can be used together or independently. Windows Azure delivers a cloud-based operating system that serves as the development, service hosting, and service management environment for the Windows Azure platform. Windows Azure provides customers with on-demand computing and storage to host, scale, and manage Web applications.

Windows Azure cloud infrastructure is comprised of a set of windows servers within datacenters, also called instances, located around the globe. While customers rely on Windows Azure to deliver and scale the cloud infrastructure, these organizations need to ensure users are receiving optimal performance—and that administrators are notified immediately if they are not.

Typically, the Windows Azure cloud infrastructure appears as a “black box” to administrators—legacy monitoring tools simply do not work for these environments. How can Windows Azure customers gain the visibility they need into these complex, dynamic cloud infrastructures, so they can ensure optimal delivery of these vital business services? How can they efficiently weave Windows Azure monitoring into their existing monitoring processes?

### The Solution

With Nimsoft Monitor for Windows Azure, customers gain the insights they need to proactively monitor the performance of the Windows Azure application infrastructure, so they minimize the business impact of downtime. With Nimsoft Monitor, organizations can leverage broad metrics about the Windows Azure cloud and its instances, and incorporate them into a sophisticated monitoring suite that offers SLA reporting, graphical dashboards and alarms, Web-based reporting portals, and more.

Plus, built on the Nimsoft Unified Management architecture, Nimsoft Monitor represents one solution that enables organizations to monitor and manage all business applications, from the datacenter to the cloud, including SaaS, hosted, and virtualized environments—all with a single product, architecture, and console. As a result, Nimsoft Monitor is the solution that enables customers to monitor Windows Azure and all roles with the utmost efficiency and the least upfront effort and resource investments.

## Fast, Easy Configuration

Windows Azure is designed to support applications that scale out, running multiple copies of the same code across many commodity servers. To allow this, a Windows Azure application can have multiple instances, each executing in its own virtual machine (VM). A hypervisor, which is based on Microsoft Hyper-V and customized for use in Microsoft's cloud, generates each VM and provides a Windows interface to each instance.

To allow monitoring and debugging Windows Azure applications, each instance calls a logging API that writes information to a common application-wide log. Nimsoft Monitor for Azure can be configured to collect performance counters for an application, measure its CPU usage, store crash dumps if it fails, and more. This information is kept in Windows Azure storage for historical reporting. For example, if a worker role instance crashes three times within an hour, Nimsoft Monitor generates an event that can alert the application's administrator appropriately. Each Azure-based application has two different instance types: Web role instances and worker role instances. Performance monitors can be automatically configured for both types of roles automatically, both in scale-up or scale-down cloud configurations.

At installation and upon login to Windows Azure subscription account, Nimsoft Monitor will examine the current Azure subscriptions, roles, and structures, and import all detected instances into a tree structure. To get started, users can click the "New Subscription" button in the configuration view and configure automatic monitors, which will create a hierarchy of new Azure cloud subscription and

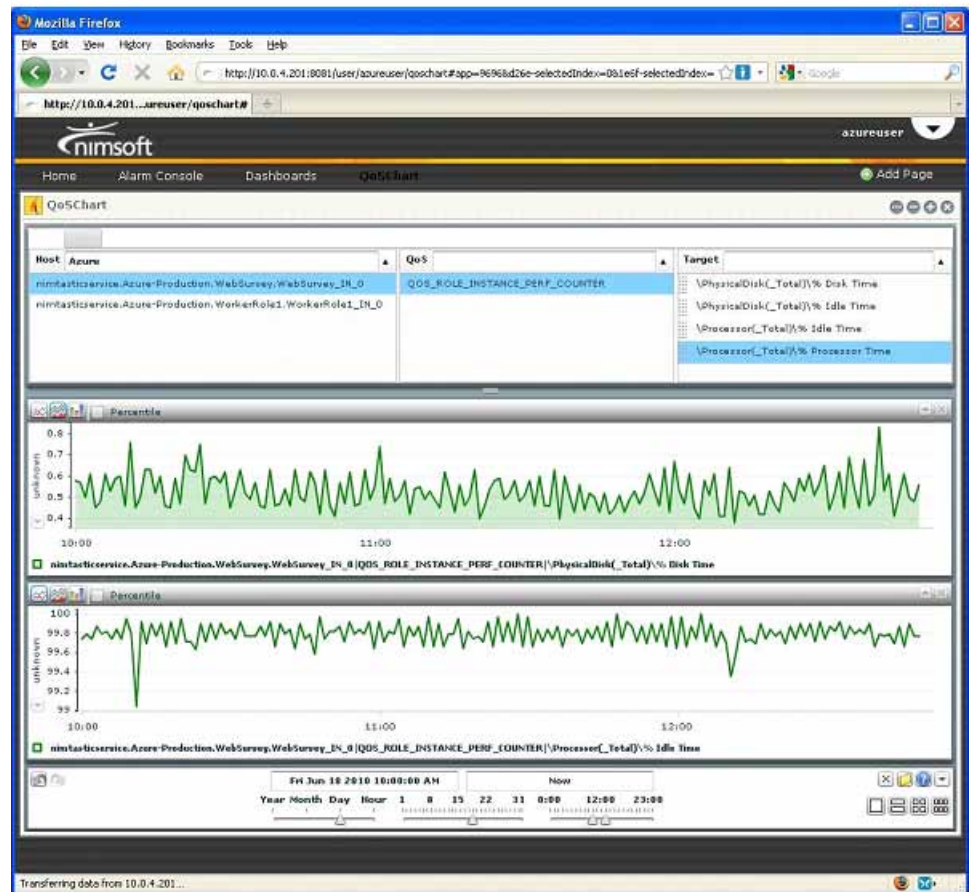
display configuration metrics in the Nimsoft Monitor display tree. If the cloud structure changes in the future, the user can configure auto monitors to scan for specific role instance name e.g. "Production" instance. Users can then select the node with the organization's name and see that entity's configuration and sampling profile. A sampling profile called templates is a set of measurements that the probe makes on a periodic schedule.

## Comprehensive Metric Coverage

Nimsoft Monitor provides comprehensive monitoring views of Windows Azure-based implementation.

## Automated Discovery

Nimsoft Monitor offers auto-discovery capabilities that support the highly dynamic structure of Azure applications:



*Nimsoft Monitoring Solution provides detailed performance monitoring metrics of Window Azure-based applications, regardless of their location and size.*

- Nimsoft Monitor provides users with Windows Azure subscriptions for monitoring. Each subscription is configured with a subscription ID and the thumbprint of an X509 certificate that maps to the subscription in the Azure Portal.
- At regular intervals, the probe will query the Azure cloud for development accounts, storage accounts, and hosted services associated with the subscription. This information will include set of role instances for each hosted service that has been deployed.

### Automated Configuration

Nimsoft Monitor enables users to create one or more sampler templates specific to a role instance. Each template specifies a set of variables to be measured and the schedule for sampling. Users can create one or more automatic monitors for a specific role instance. Each auto monitor references one or more sampler templates.

Each automatic monitor also specifies a set of matching criteria. When a probe discovers an object, it will look up all matching auto monitors that have been configured, and apply the automatic monitor's set of sampler templates to the associated role instance. Role instances support the following matching strings: Role name, deployment slot (either staging or production), deployment label (given by the administrator when deploying the application), deployment ID, service label, service name, and subscription ID.

An automatic monitor may be designated by the user as a "don't monitor anything" monitor. If a new role instance matches a don't monitor anything monitor, all auto monitors that also match that object will be ignored by Nimsoft Monitor Windows Azure monitoring.

### Azure Cloud Hosted Services and Role Instances Monitoring

Nimsoft Monitor monitors the role instances within each hosted service as follows:

- Quality of service (QoS) values and alarming on all Windows performance counters, which are accessible by a role instance in a given hosted service. Performance counters are a standard way to specify, log, and collect metrics in Windows environments.
- There are standard performance counters supplied by the operating system, as well as custom performance counters that developers can create application-specific metrics.
- Performance counters include: cache, distributed transaction coordinator, ICMP, logical disk, memory, objects, paging file, physical disk, process, processor, server, system, thread, and more.

### Highly Customizable, Query-based Monitoring and Notification

Nimsoft Monitor offers powerful features that enable users to generate queries that can collect QoS data and generate alarms on key metrics. These capabilities are highly customizable, providing administrators with a nearly infinite number of ways to generate queries and interpret returned values. These queries can be generated on an ad hoc basis or on a regularly scheduled basis, so users can easily and routinely monitor the performance and health of their Windows Azure-based implementation.

### Alarm Message Flexibility

Nimsoft Monitor features a host of common alarm messages, and it offers complete flexibility in terms of customizing message and threshold variables. As a result, users can tailor alarm messages to their organization's specific Windows Azure implementation and business needs.



## About Nimsoft

Nimsoft is a global leader in IT Management-as-a-Service. The company's lightweight ITMaaS solutions make it easy for enterprises and service providers to implement comprehensive, adaptable monitoring and service desk capabilities essential for managing today's dynamic computing environments. Learn more at [www.nimsoft.com](http://www.nimsoft.com).

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