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## Introduction

This document describes the best practices for monitoring various Windows and SQL Server cluster configurations. Microsoft requires automated testing certification before they will support any clustering, load-balancing or high-availability topologies in Windows or SQL Server. Similarly, The Vroom PerformanceSuite will only be supported when monitoring an instance where the automated cluster tests are currently passable.

## Terms

- **Windows Server Failover Cluster or WSFC**
  - A WSFC is a group of independent windows servers that can be combined to increase the viability of services.
- **Node**
  - A node is a single server that is part of a WSFC.
- **AlwaysOn**
  - AlwaysOn is a technology available in Microsoft SQL Server which allows a single database to take part in a high-availability configuration.
- **Instance**
  - An instance is the virtual node that is created as part of a clustered configuration. For instance, in a three node fail-over clustering configuration, you would have server A, B, and C – but a fourth node D would also be created and would point back to either server A, B, or C – depending on the availability of those nodes. These cluster instances come in both the Windows and SQL server varieties.

## Windows Server Failover Clustering (WSFC)

The recommended configuration for monitoring a failover cluster is to add each of the individual nodes to VPS for monitoring. This allows for flexibility when performing retroactive analysis of performance issues and failures and health monitoring of “warm-spares” so that their readiness can be ensured in the case of fail-over.

VPS also supports monitoring the single exposed cluster instance, but only if the individual cluster nodes are not going to be monitored by VPS. Since the cluster instance can point to any one of the nodes at any given time – performance metrics on the instance may appear erratic. Additionally, if only the single instance is monitored then the highly-available nature of the fail-over cluster may mask a failure of any single node.

## SQL Server Failover Cluster

As with WSFC, the recommended configuration for monitoring a SQL failover cluster is to add each of the individual nodes to VPS for monitoring.

VPS also supports monitoring the single exposed cluster instance, but only if the individual cluster nodes are not going to be monitored by VPS. Since the cluster instance can point to any one of the nodes at any given time – performance metrics on the instance may appear erratic. Additionally, if only the single instance is monitored then the highly-available nature of the fail-over cluster may mask a failure of any single node.

## SQL Server AlwaysOn Availability Groups (AOAG)

When monitoring a SQL Server AlwaysOn Availability Group, it is required that you treat each node as separate instances and add any node that you wish to monitor to VPS. It is not a supported configuration to add the AOAG listener instance to VPS, even though VPS will successfully monitor the instance; the metrics and performance statistics will be incomplete due to the nature of how AOAG exposes a single asymmetric SQL instance to the AOAG listener.