Introduce Surveon HA Solution with

Microsoft HA Clustering Architecture

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Preface

In the large scale or mission critical surveillance project, the stability is the most important factor. In order to keep high reliability, not only the software needs to be designed as long-term use basis architecture but also the hardware needs to cover any unpredictable accidents.

The "HA" stands for high availability which can be referred to a system that is continuously operational for a desirably long length of time. And the "HA" can be measured by below criteria. Vendor can support the availability with 99.999% which means only 5 minutes downtime within a single year. We will say it is a high availability system.

| Level of Availability (%)	Annual Downtime
100%	0 minutes
99.999%	5 minutes
99.99%	53 minutes
99.9%	8.8 hours
99 to 99.5%	87.6 to 43.8 hours

Microsoft Hyper-V HA Architecture

Surveon Enterprise VMS utilizes the Microsoft "Hyper-V clustering" feature and our Microsoft certificated iSCSI storage to make the HA solutions. This architecture enables user to create and manage failover clusters. A failover cluster is a group of independent computers that work together to increase the availability of applications and services. The clustered servers (called nodes) are connected by physical cables and by software. If one of the cluster nodes fails, another node begins to provide service (a process known as failover).

If the HA clustering detects hardware/software faults, it will immediately restart the Surveon VMS application on another system without requiring administrative intervention. HA cluster implementations attempt to build redundancy into a cluster to eliminate single points of failure, including multiple network connections and data storage which is redundantly connected via storage area networks.

Surveon Solutions with Microsoft HA Architecture

Here we describe the real scenario which combines the Surveon solution with Microsoft HA architecture. In this scenario, we deploy the below equipment.

- 2 x Surveon VMS server: One is active server and another is passive server. Those servers will be clustered.
- 1 x AD server: This server is use to do the domain control.
- 1 x Surveon SAS or iSCSI storage: This storage will service two VMS server.
- Several routers and switches: Service different network segment IP camera and servers.
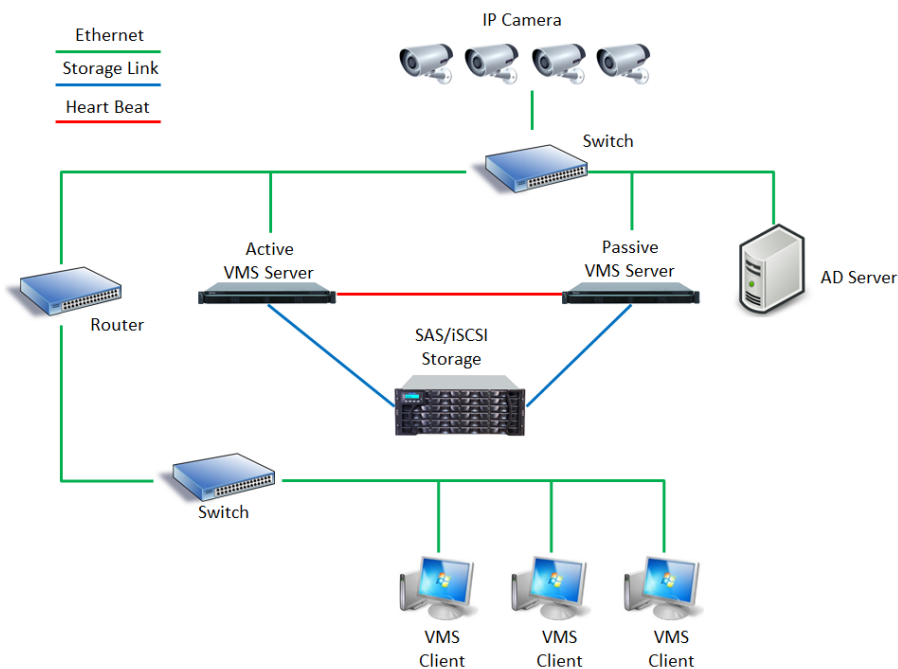
In the normal condition, the active VMS server will service and the passive VMS server will standby. Besides, our VMS server is equipped with watchdog to prevent software level crash. Once the active server encounter the hardware level fatal case, Microsoft cluster will wake up the passive VMS server and the passive VMS server will change to active one.
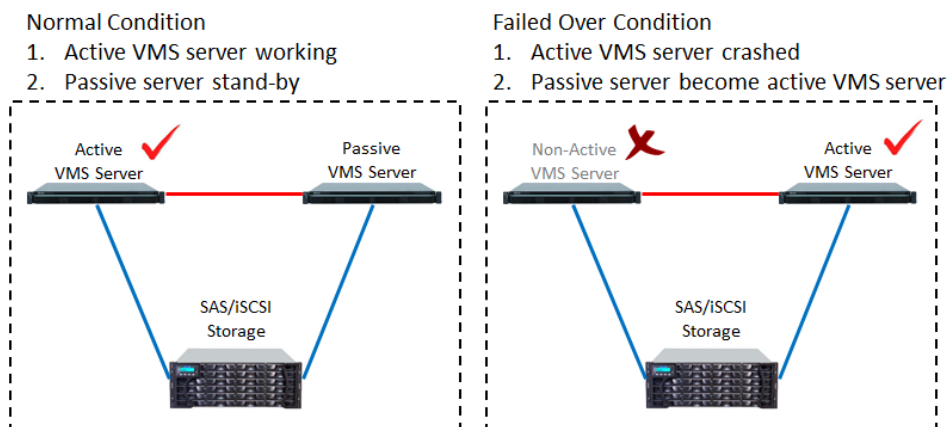
In our real test, the SAS storage would take 2 minutes to finish the failed-over transition. And the iSCSI would like 6 minutes.

Conclusion

This application note shows the solution which combines the Surveon VMS with Microsoft Hyper-V clustering feature. If user would like to know Hyper-V architecture in advance, user can contact local Microsoft certificated partner. For Surveon parts, user can visit our website www.surveon.com to get the total solution.