

Server Specifications for AMS Software

Introduction

This document provides the server specifications for running AMS software with the intention to connect to 100 devices and ensuring scalability for future expansion.

Server Specifications for AMS Software

1. Processor

- CPU: Minimum 8 vCPUs (Physical or virtual CPUs)
- Type: Intel Xeon E5 or E7 series, or AMD EPYC equivalent
- Minimum Processor Speed: 2.4 GHz per core
- Future scalability: Ensure the VM host can support up to 16-32 vCPUs for scaling

2. Memory

- RAM: 32 GB (start with)
- Future scalability: Ability to expand up to 128 GB as needed

3. Storage

- Primary Storage (OS and Software): 512 GB SSD
- Data Storage: 2 TB SSD with options to expand to 10 TB
- Backup: Implement a regular backup solution with at least 2x the data storage capacity

4. Network

- Network Interface: Dual 1 Gbps Ethernet (minimum)
- Future scalability: Support for 10 Gbps Ethernet

5. Operating System

- OS: Windows Server 2016/2022 Standard or higher edition.

6. Virtualization Platform

- Type: VMware ESXi, Microsoft Hyper-V, or Proxmox VE
- Management: Ensure the platform supports VM snapshots, live migration, and high availability (HA)

7. Database

- Type: Microsoft SQL Server, MySQL, PostgreSQL
- Scalability: Ensure the database can scale horizontally with the addition of read replicas or clustering solutions

8. Additional Considerations

- Monitoring: Implement monitoring tools like Nagios, Zabbix, or Prometheus for real-time performance monitoring
- Security: Regular updates and security patches, firewall configurations, and VPN access for remote management

- Backup: Regular automated backups using tools like Bacula, Veeam, or built-in cloud backup solutions

9. Scalability Plan

1. Initial Deployment:

- Deploy the VM with the minimum specified resources (8 vCPUs, 32 GB RAM, 512 GB SSD).
- Set up AMS software and connect the initial 100 devices.

2. Monitoring and Analysis:

- Monitor system performance and resource utilization.
- Analyze data load and access patterns to determine future needs.

3. Scaling Strategy:

- Vertical Scaling: Increase vCPUs, RAM, and storage as needed based on performance data.
- Horizontal Scaling: Implement load balancing and additional VMs for distributed workloads if a single VM becomes a bottleneck.

4. Regular Updates and Maintenance:

- Ensure the system is kept up-to-date with the latest security patches and software updates.
- Schedule regular maintenance windows to address any performance issues and implement upgrades.