

Minimum Hardware Requirements

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Computer Equipment Specifications - Minimum System Requirements

Manitou Database/Application Server

- Intel Quad Core processor (recommend 2.0 GHz or higher)
- 8 GB RAM
- System Drive (C:) - (2) 300 GB SAS or SATA HDD with RAID 1
- DVD Drive (No longer necessary)
- 100/1000 LAN NIC
- Backup Device—See Below
- Microsoft Windows Server with Proper CALs (x64) – supported versions listed below
- Microsoft SQL Server Standard Edition with Proper CALs (x64)

UL 1981 Hardware Requirements

According to the latest UL 1981 STANDARD FOR SAFETY Central-Station Automation Systems specification dated October 29, 2014, Section 9.2 (page 17):

“Computer systems shall be designated, by the manufacturer with the following minimum specifications:

1. Designed for continuous use, 24 hours per day, 7 days per week;
2. Be specified by the manufacturer as a ‘high-availability’ system;
3. Have no less than two cooling fans;
4. Have no less than two power supplies, each of which can supply power for the entire system; and
5. Have no less than two network connections, each of which can service all of the system’s needs”

These requirements are more stringent than previous specification requirements. For this reason, Bold Technologies highly recommends that you ensure that your hardware meets these new requirements prior to your annual UL inspection. If you are purchasing new hardware, verify with your hardware supplier for compliance.

Hard Drive Selection

When selecting hardware configurations, Bold Technologies highly recommends the use of SAS hard drives optimized for speed (10K RPM or 15K RPM models). This will greatly enhance the database performance over SATA or slower

drives. In general, the above specifications are listed as minimum guidelines for your proposed system and can be exceeded when budgetary support or an aggressive growth model exists. Enterprise solid state drives, designed for high write endurance, may be recommended for some higher end systems.

Workstations

- Intel Dual Core
- 8GB RAM
- 160 GB SATA HDD
- DVD/NIC
- 1920 x 1080 Monitor (see Monitors/Screen Resolution below for requirements)
- Sound card with speakers
- Video Graphics Card
- Microsoft Windows – supported versions listed below

Video Monitoring

- Dual output video card
- Additional 1920 x 1080 Monitor (see Monitors/Screen Resolution below for requirements)

Monitors/Screen Resolution

While the Manitou user interface is optimized for wide screen formats, the monitor size and screen resolution requirements vary based on the Manitou components/modules in use by your organization. The current recommendations include:

- ManitouNeo and Video Control Center – Any monitor that supports 1920 x 1080 for full functionality.

Microsoft Windows/SQL Version Support

As a Microsoft Certified Partner, Bold Technologies is committed to supporting Windows and SQL Server products as quickly as possible. Additionally, Bold Technologies strives to continue support for older Microsoft Server products while Microsoft maintains support for those products.

Below is a list of currently supported SERVER products:

- Microsoft Windows Server 2016 Standard or Datacenter Edition (Manitou)
- Microsoft Windows Server 2012 R2 Standard or Datacenter Edition (Manitou)
- Microsoft SQL Server 2016 Standard or Enterprise Edition (Manitou)
- Microsoft SQL Server 2014 Standard or Enterprise Edition (Manitou)
- Microsoft SQL Server 2012 Standard or Enterprise Edition (Manitou)

Below is a list of currently supported Desktop/Workstation products:

- Microsoft Windows 10 Pro or Enterprise

- Microsoft Windows 8/8.1 Pro or Enterprise (Microsoft End of Extended Support - January 10, 2023)
- Microsoft Windows 7 Professional, Enterprise, or Ultimate (Microsoft End of Extended Support - January 14, 2020)

Bold's Development Team (including QA) always uses the latest released version of Microsoft products for development and testing.

Virtualized Environments

Many organizations are currently implementing virtualized environments due to the management and maintenance benefits as well as the lower total cost of ownership. While Bold Technologies fully supports virtualization, there are many factors that must be considered when exploring this type of deployment. If you are considering a virtualized environment, please contact Bold Technologies to discuss your specific deployment considerations and options.

x64 System Architecture

Beginning with ManitouNEO 2.1, all application components will be compiled as 64-bit applications. All systems in the monitoring center including workstations using the Local Utility Service (required for alarm handling) must be 64-bit systems.

Microsoft SQL Server Licensing Considerations

Microsoft SQL licensing requires a couple of considerations when determining the proper version and licensing requirements. First, Microsoft licenses SQL either using Client Access Licenses (CAL) or Per Core Licenses (unlimited users/devices). Please refer to the diagram below for specific licensing requirements. In an implementation with BoldNet, the Core Licenses model is the most cost-effective model.

Second, while Microsoft SQL Server Express Edition (often referred to as SQL Express) is a cost effective solution and royalty free database, there are limitations that you should consider when choosing the database for your Manitou System. SQL Express has a maximum database size of 10 GB and will not allow full replication. If you desire a larger database and/or you will utilize replication, it is necessary to purchase Microsoft SQL Standard Edition. Please contact your Bold Technologies representative for assistance in developing which configuration is best suited to your company's goals and needs.

For additional information on Microsoft SQL Server licensing, please visit <https://www.microsoft.com/en-us/sqlserver/get-sql-server/how-to-buy.aspx>

Manitou Auto-Dialer and TAPI

The Manitou Auto-Dialer requires a TAPI interface to function. Please check with your phone solution provider to ensure that your system is capable of receiving information via TAPI. You may be required by your phone solution provider to purchase additional licensing/software to enable this function. Alternatively, Manitou can complete Auto-Dialer functions by using a PC modem in conjunction with an analog phone line at the client workstation.

Bold Technologies recently completed development with the Avaya and Tadiran platforms for auto-dialing and Caller ID injection. This new product is called PBXServer. Please contact your sales representative for more information.