

## Metasys® Software Installation and Platform Requirements

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# Metasys® Software Installation and Platform Requirements

## *Introduction*

**IMPORTANT:** Read this document before installing or upgrading any Metasys® software.

Before purchasing or implementing Johnson Controls® software on your network or workstation, please keep the following issues in mind as you plan for this applications installation or upgrade.

- Make yourself aware of all Johnson Controls applications that reside on your network or workstations.
- Not all Johnson Controls applications and revisions of these applications are compatible with this revision of Metasys software.
- The upgrade or addition of Metasys software may require the upgrade of any or all of the other applications on the network or workstation.

To determine if Metasys software conflicts with other applications on your system, refer to the most recent documentation for each piece of software.

**Note:** The term N30 Network in this document applies to a BACnet® network that consists of the N30 controller and any other Johnson Controls or third-party BACnet controllers that the System Integration Services (SIS) team in Europe has qualified for use with Metasys software.

## Key Concepts

### Operating System (OS) Support

We recommend using Windows® 2000 Professional Operating System (OS) with Service Pack (SP) 4 or Windows XP Professional OS with SP1 for all new installations.

Table 1: OS Support

Product	Windows 2000 Professional with SP4 OS <sup>1</sup>	Windows XP Professional with SP1 OS <sup>1</sup>	Windows 2000 Server SP4 OS or Windows Server 2003 SP1 OS <sup>1</sup>
M-Tool	yes <sup>2</sup>	yes	MWA only
Metasys Person-Machine Interface (PMI), Including NCSetup and Prep-For	yes	Only for Engineering Functions	MWA, MVE only
JCBasic	yes	yes	no
Point History	yes	no	no
Demand Limiting/Load Rolling	yes	no	no
Printing from the Workstation	yes	no	no
GPL <sup>5</sup>	no	no	no
Metasys Application Enabler (MAE)	yes	no	no
M3 Workstation	yes	yes	no
M5 Workstation	yes	yes	no
Metasys Web Access (MWA)	no	no	yes <sup>3</sup>
Metasys System Connectivity to LONWORKS® Networks (MCL) Workstation	yes	yes	no
Facility Explorer for Metasys System for Validated Environments (MVE)	yes	no	yes
MVE Secure Architecture Engineering or Operator Station (SAES or SAOS)	yes	no	no
SQL Historian (based on Microsoft® SQL Server™ 2000 Database Software)	no	no	yes
M-Graphics	yes	yes	yes
M-Alarm Multimedia Extension (MMX)	yes	yes	no
Metasys Data Visualization (MDV)	yes	yes	no
Metasys Historical Data Visualization (MHDV)	yes	yes	no
BACnet System Integrator (BSI)	yes <sup>4</sup>	no <sup>4</sup>	no <sup>4</sup>

1. These SPs were tested and approved with PMI Release 12.04 and M-Series Release 5.4. If later SPs are approved for the next Metasys PMI/M-Series release, it will be announced in a separate communication.
2. Some Configuration Tools may not work on all of these operating systems; please review the readme file for details.
3. Supported systems include Microsoft Windows 2000 Server OS, Windows 2000 Advanced Server SP4 OS, Microsoft Server 2003 Standard Edition SP1 OS, and Microsoft Server 2003 Enterprise Edition SP1 OS with NTFS File System.
4. Under Windows 2000 OSs, only BACnet Internet Protocol (IP) is supported.
5. The final release of Graphic Programming Language (GPL) was Release 12.03.

## Computer Requirements

Table 2 describes the recommended and minimum computer requirements for running M-Series software products on an M3 Workstation or an M5/PMI Workstation. See the specific product sections in this document for any additional requirements.

**Table 2: M5 Workstation (with PMI) and M3 Workstation Computer Requirements**

Computer Component	Description
<b>Processor*</b>	
<b>Recommended</b>	Recommended for all M3, M5, and M5/PMI Workstation applications: Windows 2000 Professional OS and Windows XP Professional OS: 2.6 GHz Pentium® 4 processor
<b>Tested and Approved</b>	Recommended for an Operator Workstation (OWS) without M5 software: Windows 2000 Professional OS: 350 MHz Pentium III processor
<b>Random Access Memory (RAM)</b>	
<b>Recommended</b>	Windows 2000 Professional OS and Windows XP Professional OS: 256 MB (512 MB recommended if receiving more than one N1 event message per minute)
<b>Minimum</b>	Windows 2000 Professional OS and Windows XP Professional OS: 128 MB
<b>Bus</b>	Peripheral Component Interconnect (PCI)
<b>Hard Disk Capacity</b>	40 GB minimum (If running System Tools and an M-Series Workstation on the same computer, we recommend maintaining 600 MB of free space on your hard disk for virtual memory.)
<b>Hard Disk Interface</b>	Integrated Device Electronics (IDE) for both desktop and laptop, Small Computer System Interface (SCSI) for desktop only
<b>Printer and Cable</b>	Must be supported by Windows OS software. For Metasys Person-Machine Interface (PMI), refer to the <i>Operation Workstation Technical Bulletin (LIT-636013)</i> for a list of supported printers.
<b>Monitor</b>	Super VGA (800 x 600), (1024 x 768), or (1280 x 1024)
<b>Tape Backup Device</b>	Windows OS software compatible, backup to floppy disks not supported
<b>CD-ROM</b>	4x or higher We recommend a CD-RW drive for making backups.
<b>Graphics Support</b>	VGA or SVGA Video chip EGA support required for Graphic Programming Language (GPL).
<b>Network Interface Card</b>	Only one network interface card is supported for standard M-Series applications. <b>Note:</b> If more than one network interface card is required (for example, for BACnet based custom applications), contact System Integration Services (SIS) for assistance.
<b>Virus Protection Software</b>	Optional. Metasys PMI software and M-Series Workstation software are only compatible with Norton AntiVirus® software.

\* Dual Processors are **not** supported. Use the Windows Task Manager to verify that only one processor is executing code.

**Note:** Use a serial connection (COM1 or COM2) to connect to field controllers. The M-Series software does not support Universal Serial Bus (USB) type connections.

Metasys PMI Release 12.04 and M-Series Release 5.4 have not been tested on Windows 98 OS and Windows NT® OS.

## Software Requirements and Exceptions

The supported operating systems include: Windows 2000 OS with SP4 and Windows XP OS with SP1.

**IMPORTANT:** If you need to move from one operating system to another, do not upgrade your operating system. If you want a different operating system, start with a clean computer.

## Metasys PMI Specific Requirements

Table 3 lists hardware options (Ethernet board, adapter for serial ports, modem, and modem cable) for supported configurations (all vendors). Verify hardware has an ISA slot.

**Note:** PMI or M5/PMI workstations installed on Windows 2000 Professional OS or Windows XP Professional OS do not support Metasys ARCNET® based N1 networks. Use the embedded Metasys Ethernet Router to communicate with existing Metasys ARCNET based N1 networks.

**Table 3: Hardware Options**

Component	Description	Code/Part Number
<b>Ethernet Card</b>	Any 10/100 MB Ethernet card that is compatible with Windows OS software. Note that NCMs need 10 MB Ethernet cards.	The NU-NET301-0 Ethernet card is not recommended for use in an OWS. NU-NET301-0 has the Plug and Play disabled to make it compatible with Network Control Modules (NCMs).
<b>Adapter for Additional Serial Ports</b>	SIIG JJ-A21012 Serial/Parallel Card	
<b>Modem</b>	Use modems as a matched pair, which means use the same model of modem on both ends of the phone line.	
<b>Modem Cable</b>	Refer to the <i>Leased Line Modem Application Note (LIT-6363141)</i> and <i>Operator Workstation Technical Bulletin (LIT-636013)</i> .	
<b>Sound Board</b>	100% Sound Blaster® compatible sound board support	

**IMPORTANT:** To install Metasys PMI software on a Windows 2000 Professional OS or a Windows XP Professional OS, you must belong to the Administrators group.

Users do not need to belong to the Power Users group to change the time of the system clock on each local Operator Workstation (OWS). The Administrator can configure the local User group to have rights to change the time. For more information, refer to the *Operator Workstation Technical Bulletin (LIT-636013)*.

**Note:** If M-Tool is required on an M5/PMI Workstation, you must install M-Tool before PMI software.

## M-Tool Specific Requirements

The following list describes the specific M-Tool requirements:

- serial port and cable to connect computer to N30 Supervisory Controller if using direct serial connection
- Ethernet interface board and cable to connect computer to N30 through an Ethernet network
- Transmission Control Protocol/Internet Protocol (TCP/IP) Network protocol installed
- Microsoft Dial-Up Networking installed to connect to an N30 through direct serial or dial-up (modem) connections
- Remote Access Service (RAS) for dial-up (modem) connections in Windows 2000 Professional OS and Windows XP Professional OS
- Installation of M-Tool before PMI software, if M-Tool is required on an M5 Workstation

If using M-Pro with a LONWORKS network and a LONWORKS interface card: use a PCLTA-10 or -20 (ISA or PCI) card for desktop computers. Use a PCC-10 card for notebook computers. The external SLTA-10 adapter is not supported for use with M-Tool.

To use M-Pro software as a plug-in to a LONWORKS network management tool, use Echelon® LNS® Release 2.0 or Release 3.0 based LONWORKS network management tool.

## M3 or M5 Workstation Specific Requirements

**Note:** We do **not** recommend installing the M3 Workstation and M5 Workstation on the same computer.

**IMPORTANT:** To install M3 or M5 Workstation software on a Windows 2000 Professional OS or a Windows XP Professional OS, you must belong to the Administrators group.

To run M3 or M5 Workstation software on Windows 2000 Professional OS or a Windows XP Professional OS, the user must belong to the Power Users group. If necessary, apply additional system access restrictions using M-Password software.

Prior to beginning the M3 or M5 Workstation installation, install:

- Windows OS
- Microsoft Internet Explorer® Version 5.5 or later, which is included on the M3 Workstation and the M5 Workstation CD-ROM. The location is: CD-ROM\Browsers\Internet Explorer\setup.exe
- Transmission Control Protocol/Internet Protocol (TCP/IP) from the Windows CD-ROM
- M-Tool before PMI software if M-Tool is required on an M5 Workstation

### ***Third-Party Applications***

The M3 and M5 Workstation installation performs initialization checks on the target system at the beginning of the install. If requested, install:

- Microsoft Data Access Components (MDAC) Release 2.6
- Open Database Connectivity (ODBC) driver (Jet Version 4.0)

## SQL Historian Specific Requirements

The computer platform requirements for the SQL Historian software are:

- 1 GHz Pentium® 4 processor or higher
- Microsoft Windows 2000 Server OS or Advanced Server OS with SP3
- 512 MB RAM to run the SQL Historian software together with Microsoft SQL Server 2000 database software on a separate and dedicated computer platform under Microsoft Windows 2000 Server OS or Windows 2000 Advanced Server OS

**Note:** SQL Historian is not included on the M3 or M5 Workstation or MWA CD-ROM and must be ordered separately. The SQL Historian software needs to be installed on a separate and dedicated computer together with Microsoft SQL Server 2000 database software.

The SQL Historian solution is based on Microsoft SQL Server 2000 database software; however, Microsoft SQL Server 2000 database software is not included on the SQL Historian CD-ROM and must be ordered separately through Information Technology-Acquisition Services (ITAS) or an authorized Microsoft reseller.

**Note:** M3 Workstations or M5 workstations installed on Windows 2000 Professional OS or Windows XP Professional OS do not support AspenTech® InfoPlus.21® Historian. Use either the Access Historian or SQL Historian option for archiving trend data collected by the NCM or N30 supervisory controllers.

## MMX Specific Requirements

The computer platform requirements for the MMX software are:

- 1 GHz Pentium 4 processor
- Microsoft Windows 2000 Professional OS with SP4 is recommended. Windows XP Professional OS with SP1 is also supported.
- at least additional 125 MB of hard disk space for installing MMX software

**Note:** This is the recommended amount of disk space for the MMX installation only and does not include hardware drivers. As the size of the database increases over time, additional space may be needed.

- VGA video card, 256 or more colors for best results
- Microsoft Internet Explorer Version 5.5 or later

**IMPORTANT:** You must have a voice board installed on the computer on which you are running the Phone Agents (both Call-in and Call-out). MMX supports Intel® Dialogic® boards. You also need an analog phone line connected to the board. (Digital lines are not supported.) Refer to *Installing M-Alarm Multimedia Extension (MMX) Technical Bulletin (LIT-1201669)* for information on installing and configuring Intel Dialogic boards. For more information on purchasing and installing Intel Dialogic boards, go to the Intel Web site at [www.intel.com](http://www.intel.com).

- computer with a Pentium processor with the minimum requirements as shown in Table 4

**Table 4: MMX Processor and RAM Minimum Requirements**

Operating System (OS)	Project Size	Processor	RAM
Windows 2000 Professional OS or Windows XP Professional OS	Small (50 action sets/<500 objects)	1 GHz	512 MB
Windows 2000 Professional OS or Windows XP Professional OS	Medium (100 action sets/501-5,000 objects)	1 GHz	512 MB
Windows 2000 Professional OS or Windows XP Professional OS	Large (200 action sets/>5,001 objects)	2 GHz	1 GB

**Note:** You should assume Large if there are any continuously reported events to the userapps file from the MMX computer. Objects that report any event as often as every 5 minutes should be considered continuous.

The processor speed and actual amount of RAM varies depending on the number of event messages that need to be routed by the configured MMX Agent.

## MWA Specific Requirements

The requirements for the MWA computer are:

- 1.8 GHz Pentium 4 processor
  - Note:** Higher processor speed improves the performance of MWA.
- 1.5 GB RAM recommended (1 GB minimum)
- Windows 2000 Server OS, Windows 2000 Advanced Server OS, or Windows Server 2003 OS
- Microsoft Terminal Services Technology
- Microsoft Internet Information Server (IIS) Version 5.0
- 133 MHz Frontside Bus (FSB)
- 10/100 Mbps network card
- CD-ROM drive (with a CD-RW drive recommended)
- Minimum of 5 GB free hard disk space

Remote users need Internet Explorer Version 5.5 or later.

If MWA accesses Metasys PMI on a separate computer, the Metasys PMI computer has increased minimum requirements for processor speed and RAM. The revised Metasys PMI computer requirements are:

- 1 GHz processor (minimum)
- 256 MB RAM (minimum)

**Note:** All other Metasys PMI computer requirements remain the same. See the *Metasys PMI Specific Requirements* section in this document.

## Installation Documentation References

**Table 5: Installation Documentation References**

<b>Document</b>	<b>LIT Number</b>
<i>M3 Workstation Overview and Installation Technical Bulletin</i>	<i>LIT-1153100</i>
<i>M5 Workstation Installation Technical Bulletin</i>	<i>LIT-1153300</i>
<i>Operator Workstation Technical Bulletin</i>	<i>LIT-636013</i>
<i>Installing and Commissioning Metasys Web Access Technical Bulletin</i>	<i>LIT-1201162</i>
<i>M-Tool Overview and Installation Technical Bulletin</i>	<i>LIT-693100</i>
<i>Metasys Historical Data Visualization Installation Bulletin</i>	<i>LIT-653375</i>

## Installation/Upgrade Sequence

When you install or upgrade Johnson Controls software products, we recommend following the installation/upgrade sequence described in this document, which is the only tested installation/upgrade sequence.

## Upgrade Notes

Please read the following notes before upgrading any Metasys software:

- Back up all data files before any upgrade.
- Do not uninstall components with the Windows operating system Add/Remove Programs feature. The installation process performs the proper uninstalls.  
**Note:** To uninstall MMX, you must use the Windows operating system Add/Remove Programs feature.
- If you upgrade any of the Johnson Controls Metasys software on a computer, you must upgrade **all** components on that computer to the latest release.
- A warning appears in the M-Tool install if it detects Version 1.x of the M3 Workstation. It states that upgrading the M-Tool makes the M3 Workstation unusable. Proceed with the M-Tool installation, then immediately upgrade the M3 Workstation. Once both installations finish, both products work.

### ***M-Authorize***

Table 6 describes when reauthorization is required after upgrading. Refer to the Upgrade Authorization form shipped with the software and *Using M-Authorize Technical Bulletin (LIT-6424400)*.

**Table 6: Reauthorization Requirements**

Upgrading From	Upgrading To	Reauthorize Required
<b>M5 Workstation Release 1.x</b>	M5 Workstation Release 5.4	Yes
<b>M5 Workstation Release 2.x</b>	M5 Workstation Release 5.4	Yes
<b>M5 Workstation Release 5.0</b>	M5 Workstation Release 5.4	No
<b>M5 Workstation Release 5.1</b>	M5 Workstation Release 5.4	No
<b>M5 Workstation Release 5.3</b>	M5 Workstation Release 5.4	No
<b>M3 Workstation Release 2.x</b>	M3 Workstation Release 5.4	Yes
<b>M3 Workstation Release 3.0</b>	M3 Workstation Release 5.4	Yes
<b>M3 Workstation Release 3.1</b>	M3 Workstation Release 5.4	No
<b>M3 Workstation Release 5.0</b>	M3 Workstation Release 5.4	No
<b>M3 Workstation Release 5.1</b>	M3 Workstation Release 5.4	No
<b>M3 Workstation Release 5.3</b>	M3 Workstation Release 5.4	No
<b>MWA Release 5.1</b>	MWA Release 5.4 or 5.4.36	No
<b>MWA Release 5.3</b>	MWA Release 5.4 or 5.4.36	No
<b>MMX Release 5.1</b>	MMX Release 5.4	No
<b>MMX Release 5.3</b>	MMX Release 5.4	No

## M3 Workstation Installation/Upgrade Sequence

**Notes:** For N30 networks, upgrade all N30 controller firmware to Release 5.4. Refer to the *N30 Supervisory Controller Installation Technical Bulletin (LIT-6891100)*.

If you do not have or need one of the components listed, skip to the next component.

1. Install operating system Service Packs as required. See Table 1.
2. Install M-Tool (Configuration Tools, then System Tools) to engineer integrated N30 networks.
3. Install M3 Workstation software with optional M-Graphics.
4. Install applications in any sequence: MDV, MHDV, and MMX.

## M5 Workstation Installation/Upgrade Sequence

ARCNET based N1 networks need to use the embedded Metasys Ethernet Router to communicate with an M5 Workstation at Release 5.4 and with PMI at Release 12.04.

For Metasys N1 Networks, install Metasys PMI Release 12.04 prior to installing M5 Workstation software. Refer to the *Upgrading the M5 Workstation on an N1 Network* section in the *M5 Workstation Installation Technical Bulletin (LIT-1153300)*.

For N30 networks, upgrade all N30 controller firmware to Release 5.4. Refer to the *N30 Supervisory Controller Installation Technical Bulletin (LIT-6891100)*.

If you do not have or need one of the components listed, skip to the next component:

1. Install the operating system Service Pack as required. See Table 1.
2. Install M-Tool software (Configuration Tools, then System Tools) to engineer integrated N30 networks.
3. Install Metasys PMI software to engineer integrated N1 networks.

**Note:** Make sure Metasys PMI runs properly before continuing.

4. Install M5 Workstation software with optional M-Graphics.
5. Install applications in any sequence: MDV, MHDV, MMX

**Note:** When a new N1 Trend Collector Node monitor feature (M5 5.1A or later) is installed on top of older versions (M5 5.1 or earlier) of the Node monitor feature, make sure the old node monitor JC-BASIC process (datahist.bas) is deleted from the archive OWS and Historian Node Monitor Network Controller (NC). Refer to *Chapter 6: N1 Trend Collector (LIT-1153870)* of the *M5 Workstation User's Guide* for more information on how to set up the new Node Monitor Feature.

## MMX Installation/Upgrade Sequence

Use the following MMX installation sequence:

1. If upgrading, **uninstall MMX** prior to installing the M3 Workstation upgrade software or M5 Workstation upgrade software.
2. Install MMX upgrade software.

## MWA Installation/Upgrade Sequence

**Note:** It is not necessary to upgrade an MWA installation from Release 5.4 to 5.4.36. Release 5.4.36 merely adds the supporting files for installation on a Windows Server 2003 OS.

Use the following MWA installation sequence:

1. If not already installed, install Windows 2000 Server OS, Windows 2000 Advanced Server OS, or Windows Server 2003 OS with either 5 or 10 Windows Server Client Access Licenses (CALs).
2. Install IIS, Microsoft Terminal Services, and Microsoft Terminal Services License.
3. If this is a Windows Server 2003 OS system, enable Active Server Pages under IIS > Web Service Extensions.
4. Install the operating system Service Pack as required. See Table 1.
5. Delete the Microsoft Terminal Services ActiveX® control from the MWA server and client machines, if installed. The Remote Desktop Web Connection ActiveX control, which is installed in the next step, replaces this control.

**Note:** New client server licenses are no longer available for Windows 2000 Server OS systems; however, if you need to purchase a CAL for use on this older operating system, you must purchase Windows Server 2003 OS and use the Microsoft Downgrade License option to obtain a valid CAL for use on Windows 2000 Server OS. The same holds true for obtaining a new Terminal Services CAL. For additional information, access the following Microsoft Web site address:

<http://www.microsoft.com/windowsserver2003/howtobuy/licensing/downgrade.aspx>.

6. Install Remote Desktop Web Connection ActiveX control (rdwebconn.asp) from the Microsoft Web site into the TSWeb directory (default). Access rdwebconn.asp at:

[www.microsoft.com/windowsxp/pro/downloads/rdwebconn.asp](http://www.microsoft.com/windowsxp/pro/downloads/rdwebconn.asp)

**Note:** Internet Explorer Version 6.0 with SP1 requires new client control. The new control works with any version of Internet Explorer Web browser. Internet Explorer Web browser does not deploy this client.

7. If required, install M-Tool software (Configuration Tools, then System Tools) to engineer integrated N30 networks as an MWA local user.
8. If required, install Metasys PMI software as an MWA local user.

<p><b>IMPORTANT:</b> The use of the Metasys PMI and MWA software on the same computer is not supported on a Windows Server 2003 OS system; therefore, if the operating system the MWA is using is Windows Server 2003 OS, install the Metasys PMI software on a different computer.</p>
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9. Install MWA software. MWA software includes multiple instances of M-Graphics.
10. Install additional Metasys applications in any sequence: MDV, MHDV.

**Note:** For any application installation (except MWA) after Microsoft Terminal Services, you must start the installations from the Windows OS Start menu > Settings > Control Panel > Add/Remove Programs.



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