

# Metasys® for Validated Environments, Extended Architecture Catalog Page

MS-MVE5U-0, MS-MVE10U-0, MS-MVE25U-0, MS-MVE50U-0

Code No. LIT-1900466  
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Refer to the [QuickLIT website](#) for the most up-to-date version of this document.

Metasys® for Validated Environments (MVE), extended architecture is an offering from Johnson Controls for facilities that require regulatory compliance for their environmental systems. MVE brings the flexibility and convenience of a web interface to your regulated facility. The MVE application is ordered separately from the Metasys Extended Application and Data Server (ADX).

MVE is essential to facilities in which regulatory management is key to successful production. The system controls environmental conditions and audits user management for critical environments, such as hospitals, research facilities, food production centers, and other production environments where tight control is key to product success. Whether your focus is meeting regulatory demands or reducing business risk, MVE is designed to deliver.

Some of the many important MVE capabilities include flexible system navigation, powerful user graphics, comprehensive alarm management, trend analysis, and advanced reporting.

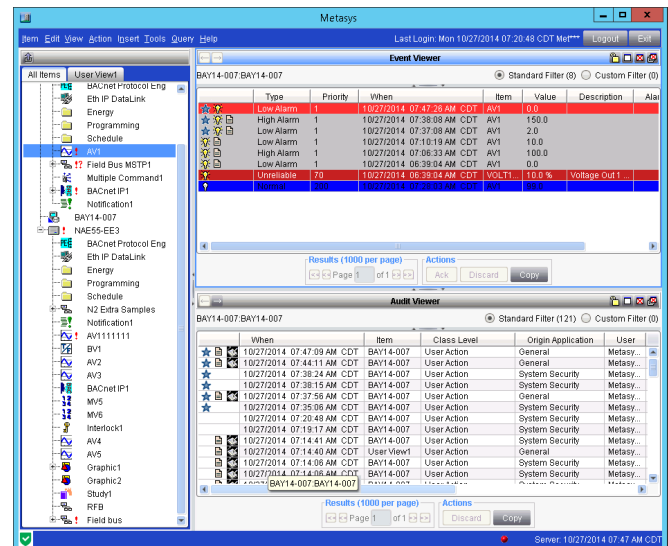
In addition, complex passwords and message encryption secure the system from unauthorized access and data tampering. The system uses Internet protocols and IT standards and is compatible with enterprise-level communication networks.

MVE is specifically designed to help customers address United States Food and Drug Administration (FDA) Title 21, Code of Federal Regulation (CFR) Part 11 compliance. MVE is also compliant with similar agencies around the world that deal with electronic records and electronic signature requirements, such as Annex 11 of the European Union Good Manufacturing Practice (EU GMP) regulations (European Medicines Agency [EMA] 1998).

MVE software is installed on an existing Metasys ADX, which provides the ability to configure supervisory engines as validated devices. MVE software is purchased and licensed separately from the ADX.

Refer to the *Metasys for Validated Environments, Extended Architecture Product Bulletin (LIT-12011326)* for important product application information.

Figure 1: MVE Browser Window



## Features and Benefits

- **Web Browser User Interface with Advanced Reporting**—Provides full access to your Building Automation System (BAS) from any computer with compatible web browser software. Metasys Advanced Reporting System provides pre-configured reports that assist with high-level data analysis.
- **Buffered Data Collection**—Enables supervisory controllers to store data locally if communication to the database server is lost.
- **Software Simulation**—Provides offline simulation capability to assist with source code reviews and validation processes.
- **Secure User Access**—Authenticates users and authorizes access privileges to protect system integrity. Requires a unique username and complex password for each user.
- **Remote Authentication Dial-In User Service (RADIUS) Server**—Authenticates your identity as an authorized user of the system.
- **Electronic Records and Signatures**—Combine the efficiency of electronic record keeping with the security of authenticated electronic signatures. All system changes can be configured to require annotations only or both signatures and annotations.
- **Syslog Dynamic Data Access (DDA)**—An optional capability of sending its configured audit log entries and alarm notifications to an external, industry-standard Syslog server.
- **Time-Stamped Audit and Event Trails**—Generate traceable alarm and event transactions in chronological order.
- **Simplified User Interface**—Provides a shared set of users and user views between the real-time Metasys Site Management Portal user interface and the historical Metasys Advanced Reporting System.

## Extended Application and Data Server (ADX) with Metasys for Validated Environments (MVE) Licensing

License the ADX with MVE before you bring the system and all the validated and non-validated network engines online. If you license an ADX, and you later want to add MVE, you must first remove the existing ADX license. Then, use the License Activator to obtain a new site code, and submit the code to Johnson Controls® Product Sales with a request for a new ADX with MVE site key.

ADX and MVE software are sold and installed separately, but licensed together. For example, if you want the 10-user MVE system, order a 10-user ADX and a 10-user MVE. Install ADX first, then MVE. After installation, use the License Activator to license the two products together. If you license the ADX but not the MVE, a Not Licensed message appears and blocks the alarm pop-up window from appearing in front of all other windows. Therefore, we highly recommend that you license both products together before you bring the system online.

Whether you license a 5-user or 10-user MVE, select the 10-user ADX. A 5-user or 10-user MVE can be licensed with a 10-user ADX. When you install and license a 25-user MVE, you must install and license a 25-user ADX. Likewise, when you install and license a 50-user MVE, you must install and license a 50-user ADX. After licensing, use the License Activator to view the license to make sure that both ADX and MVE are licensed. If License Activator shows that one or neither are licensed, you need to obtain a new license key.

Finally, both the ADX and MVE software must be at the same *Metasys* system release level. The MVE installer halts if it detects a different release of ADX software on the computer.

## Ordering Information

Use the following table to order MVE products. For additional ordering information, refer to the *Metasys System Software Purchase Options Product Bulletin (LIT-12011703)*.

**Table 1: Ordering Information**

Code Numbers	Description
MS-MVE5U-0	MVE new project software; 5 users
MS-MVE10U-0	MVE new project software; 10 users
MS-MVE25U-0	MVE new project software; 25 users
MS-MVE50U-0	MVE new project software; 50 users <b>Note:</b> For special MVE 50 user hardware requirements, see <a href="#">Table 4</a> .
MS-MVE5U-6	MVE upgrade software; 5 users
MS-MVE10U-6	MVE upgrade software; 10 users
MS-MVE25U-6	MVE upgrade software; 25 users
MS-MVE50U-6	MVE upgrade software; 50 users
MS-MVE510U-8	MVE migration software from 5 to 10 users
MS-MVE525U-8	MVE migration software from 5 to 25 Users
MS-MVE1025U-8	MVE migration software from 10 to 25 Users
MS-MVE2550U-8	MVE migration software from 25 to 50 Users

**Note:** A 100-user MVE software product is not offered at Release 8.1, but a 100-user ADX system is available.

## Technical Specifications

**Table 2: MVE, Extended Architecture System Requirements (5-, 10-, 25-User Unified ADX Systems)**

<b>Recommended Server Platform<sup>1</sup></b>	2.20 GHz E5 Series Intel® Xeon® Quad Core single processor or better  2 x 600 GB hard disk (RAID 1) <sup>2</sup> with 40 GB free space after installation of all prerequisite software <sup>3</sup> and before installation of ADS software. Configure RAID 1 (mirroring) with disk write-caching turned on.  DVD drive  <b>Note:</b> ADX prerequisite software includes the Windows operating system, SQL Server® software, Microsoft® .NET Framework version 3.5, Microsoft .NET Framework 4.6.1, and any other software or SPs required by your ADX configuration.
<b>Recommended Memory<sup>4</sup></b>	8 GB RAM (5 user ADX) 16 GB RAM (10 or 25 user ADX)
<b>Supported Operating Systems and Database Software<sup>5</sup></b>	<b>Windows® Server® 2016 (64-bit)</b> SQL Server® 2016 with SP1 (64-bit) SQL Server® 2014 with SP2 (64-bit) SQL Server® 2012 with SP3 (64-bit)  <b>Windows® Server® 2012 R2 with Update 1 (64-bit)<sup>6,7</sup></b> SQL Server® 2016 with SP1 (64-bit) SQL Server® 2014 with SP2 (64-bit) SQL Server® 2012 with SP3 (64-bit)  <b>Windows® Server® 2012 (64-bit)<sup>6,7</sup></b> SQL Server® 2016 with SP1 (64-bit) SQL Server® 2014 with SP2 (64-bit) SQL Server® 2012 with SP3 (64-bit)
<b>Supported Virtual Environments</b>	Microsoft Hyper-V™, VMware®

**Table 2: MVE, Extended Architecture System Requirements (5-, 10-, 25-User Unified ADX Systems)**

<b>Required Web Browser for Metasys Client Computers</b>	Windows Internet Explorer® version 11 (Other browsers, such as Google® Chrome™ and Mozilla® Firefox®, may also be used but are not fully supported.) <b>Notes:</b> <ul style="list-style-type: none"> <li>In Internet Explorer 11, select the <b>Use Microsoft compatibility lists</b> option, found under <b>Tools &gt; Compatibility View Settings</b>, to ensure that websites appear and function correctly.</li> <li>You use the web browser to download the Launcher application. After you install the Launcher application, you use the Launcher, not the web browser, to log on to the <i>Metasys</i> UI.</li> </ul>	
<b>Network Communication</b>	Ethernet network interface card (100 or 1000 Mbps) <b>Note:</b> The ADX supports only one network interface card.	
<b>Supported User Interfaces</b>	Metasys Site Management Portal	
<b>Additional Software Included on the ADX Product Disks</b>	CCT Metasys Export Utility Metasys Database Manager Microsoft .NET Framework Version 4.6.1	Microsoft SQL Server 2012 SCT 11.1 Launcher 1.6
	<b>Notes:</b> <ul style="list-style-type: none"> <li>Windows Server 2016, Server 2012 R2, and Windows Server 2012 include Microsoft .NET Framework Version 3.5/3.5.1. No separate software installation is necessary.</li> <li>The <i>Metasys</i> Advanced Reporting System requires an ADX. The SCT must be online and accessible to the ADX at all times.</li> </ul>	
<b>Optional Hardware</b>	Any network or local printer supported by the qualified Windows operating system.	
<b>Optional Software</b>	Energy Essentials	
	Graphic Generation Tool	

- Our computer platform and memory recommendations are not meant to imply that older or slower machines are not usable. Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for more information regarding computer and server recommendations.
- For best performance, use SAS hard drives, not SATA hard drives.
- ADX prerequisite software includes the Windows operating system and SQL Server software, Windows .NET Framework, and any other software or Service Packs required for your ADX configuration.
- For best performance, use the maximum amount of memory. An ADX with 16 GB RAM has much greater performance than an ADX with only 4 GB RAM. A 32-bit operating system does not support more than 4 GB of RAM.
- Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for specific Microsoft Windows operating system settings that may be required for your *Metasys* system configuration.
- For SQL Server 2014 software or SQL Server 2012 software, you must purchase a core license for each individual processor core (with a minimum of four core licenses). For example, if you have a single processor with dual cores, purchase four core licenses (the minimum) for SQL Server 2014 software or SQL Server 2012 software.
- To use SQL Server 2014 with *Metasys* products, you must install Microsoft cumulative update package 3 (KB2984923) for SQL Server 2014. To download the update package, visit <http://support.microsoft.com/kb/2984923/>.

**Table 3: MVE, Extended Architecture System Requirements (5-, 10-, 25-User Split ADX Systems)**

<b>Recommended Server Platform<sup>1</sup></b>	<b>Web/Application Server</b> 2.20 GHz E5 Series Intel® Xeon® Quad Core single processor or better. 2 x 600 GB hard disk (RAID 1) <sup>2</sup> with 40 GB free space after installation of all prerequisite software <sup>3</sup> and before installation of ADS software. Configure RAID 1 (mirroring) with disk write-caching turned on. DVD drive <b>Notes:</b> <ul style="list-style-type: none"> <li>ADX prerequisite software includes the Windows operating system, SQL Server software, Microsoft .NET Framework version 3.5, Microsoft .NET Framework 4.6.1, and any other software or SPs required by your ADX configuration.</li> <li><i>Metasys</i> Advanced Reporting System and <i>Metasys</i> Energy Essentials can reside on the ADX web/application server.</li> <li><i>Metasys</i> UI must reside on the ADX web/application server.</li> </ul>
	<b>Database Server</b> 2.20 GHz E5 Series Intel Xeon® Quad Core single processor or better. 2 x 600 GB hard disk (RAID 1) with 40 GB free space after installation of all prerequisite software <sup>3</sup> and before installation of ADS software. Configure RAID 1 (mirroring) with disk write-caching turned on. DVD drive <b>Note:</b> ADX prerequisite software includes the Windows operating system, SQL Server software, Windows .NET Framework version 3.5, and any other software or SPs required by your ADX configuration.
<b>Recommended Memory<sup>4</sup></b>	16 GB RAM (web/application server and database server)

**Table 3: MVE, Extended Architecture System Requirements (5-, 10-, 25-User Split ADX Systems)**

<b>Supported Operating Systems and Database Software</b> <sup>5,6</sup>	<b>Windows® Server® 2016 (64-bit)</b> SQL Server® 2016 with SP1 (64-bit) SQL Server® 2014 with SP2 (64-bit) SQL Server® 2012 with SP3 (64-bit)	
	<b>Windows® Server® 2012 R2 with Update 1 (64-bit)</b> <sup>1,1</sup> SQL Server® 2016 with SP1 (64-bit) SQL Server® 2014 with SP2 (64-bit) SQL Server® 2012 with SP3 (64-bit)	
	<b>Windows® Server® 2012 (64-bit)</b> <sup>1,1</sup> SQL Server® 2016 with SP1 (64-bit) SQL Server® 2014 with SP2 (64-bit) SQL Server® 2012 with SP3 (64-bit)	
<b>Required Web Browser for Metasys Client Computers</b>	Windows Internet Explorer® version 11  (Other browsers, such as Google® Chrome and Mozilla Firefox, may also be used but are not fully supported.)  <b>Notes:</b> <ul style="list-style-type: none"> <li>In Internet Explorer 11, select the <b>Use Microsoft compatibility lists</b> option, found under <b>Tools &gt; Compatibility View Settings</b>, to ensure that websites appear and function correctly.</li> <li>You use the web browser to download the Launcher application. After you install the Launcher application, you use the Launcher, not the web browser, to log on to the <i>Metasys</i> UI.</li> </ul>	
<b>Supported Virtual Environments</b>	Microsoft Hyper-V™, VMware®	
<b>Communication</b>	Ethernet network interface card (100 or 1000 Mbps).  <b>Note:</b> The ADX supports multiple network interface cards.	
<b>Supported User Interfaces</b>	<i>Metasys</i> Site Management Portal	
<b>Additional Software Included on the ADX Product Disks</b>	CCT	Microsoft SQL Server 2012
	<i>Metasys</i> Export Utility <i>Metasys</i> Database Manager Microsoft .NET Framework Version 4.6.1	SCT 11.1 Launcher 1.6
	<b>Notes:</b> <ul style="list-style-type: none"> <li>Windows Server 2016, Server 2012 R2, and Windows Server 2012 include Microsoft .NET Framework Version 3.5/3.5.1. No separate software installation is necessary.</li> <li>The <i>Metasys</i> Advanced Reporting System requires an ADX. The SCT must be online and accessible to the ADX at all times.</li> </ul>	
<b>Optional Hardware</b>	Any network or local printer supported by the qualified Windows operating system	

- Our computer platform and memory recommendations are not meant to imply that older or slower machines are not usable. Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for more information regarding computer/server recommendations.
- For best performance, use SAS hard drives, not SATA hard drives.
- ADX prerequisite software includes the Windows operating system and SQL Server software, Windows .NET Framework, and any other software or service packs required for your ADX configuration.
- For best performance, use the maximum amount of memory. An ADX with 16 GB RAM has much greater performance than an ADX with only 4 GB RAM. Also, a 32-bit operating system only supports a maximum of 4 GB of RAM.
- Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for specific Microsoft Windows operating system settings that may be required for your *Metasys* system configuration.
- The web/application and database servers must have the same operating system installed.
- For SQL Server 2014 software or SQL Server 2012 software, you must purchase a core license for each individual processor core (with a minimum of four core licenses). For example, if you have a single processor with dual cores, purchase four core licenses (the minimum) for SQL Server 2014 software or SQL Server 2012 software.
- To use SQL Server 2014 with *Metasys* products, you must install Microsoft cumulative update package 3 (KB2984923) for SQL Server 2014. To download the update package, visit <http://support.microsoft.com/kb/2984923/>.

**Table 4: MVE, Extended Architecture System Requirements (50-User Unified ADX Systems)**

<b>Recommended Server Platform<sup>1</sup></b>	2 x 2.20 GHz E5 Series Intel® Xeon® Quad Core single processor or better.  6 x 300 GB hard disk (RAID 5) <sup>2</sup> with 50 GB free space after installation of all prerequisite software <sup>3</sup> and before installation of ADS software. Configure RAID 5 with disk write-caching turned on.  DVD drive  <b>Note:</b> ADX prerequisite software includes the Windows operating system, SQL Server software, Microsoft .NET Framework version 3.5, Microsoft .NET Framework 4.6.1, and any other software or SPs required by your ADX configuration.	
<b>Recommended Memory</b>	32 GB RAM minimum	
<b>Supported Operating Systems and Database Software<sup>4,5</sup></b>	<b>Windows Server® 2012 R2 Standard and Enterprise Editions with Update 1 (64-bit)<sup>6,7</sup></b> Supports Microsoft SQL Server 2014 Standard or Enterprise with SP2 (64-bit), Microsoft SQL Server 2012 Standard or Enterprise with SP3 (64-bit), or Microsoft SQL Server 2008 R2 Standard or Enterprise with SP3 (64-bit)	
	<b>Windows Server 2012 Standard and Enterprise Editions (64-bit)<sup>6,7</sup></b> Supports Microsoft SQL Server 2014 Standard or Enterprise with SP2 (64-bit), Microsoft SQL Server 2012 Standard or Enterprise with SP3 (64-bit), or Microsoft SQL Server 2008 R2 Standard or Enterprise with SP3 (64-bit)	
	<b>Windows Server 2008 R2 Standard and Enterprise Editions with SP1 (64-bit)<sup>6,7</sup></b> Supports Microsoft SQL Server 2014 Standard or Enterprise with SP2 (64-bit), Microsoft SQL Server 2012 Standard or Enterprise with SP3 (64-bit), or Microsoft SQL Server 2008 R2 Standard or Enterprise with SP3 (64-bit)	
<b>Required Web Browser for Metasys Client Computers</b>	Windows Internet Explorer® version 11  (Other browsers, such as Google Chrome and Mozilla Firefox, may also be used but are not fully supported.)  <b>Notes:</b> <ul style="list-style-type: none"> <li>In Internet Explorer 11, select the <b>Use Microsoft compatibility lists</b> option, found under <b>Tools &gt; Compatibility View</b> Settings, to ensure that websites appear and function correctly.</li> <li>You use the web browser to download the Launcher application. After you install the Launcher application, you use the Launcher, not the web browser, to log on to the <i>Metasys</i> UI.</li> </ul>	
<b>Other Required Software Components</b>	Microsoft .NET Framework version 3.5 and later	
<b>Supported Virtual Environments</b>	Microsoft Hyper-V™, VMware®	
<b>Network Communication</b>	Ethernet network interface card (100 or 1000 Mbps)  <b>Note:</b> The ADX supports multiple network interface cards.	
<b>Supported User Interfaces</b>	<i>Metasys</i> Site Management Portal	
<b>Additional Software Included on the ADX Product Disks</b>	CCT  <i>Metasys</i> Export Utility  <i>Metasys</i> Database Manager  Microsoft .NET Framework Version 4.6.1	Microsoft SQL Server 2012  <i>Metasys</i> Ready Access Portal  SCT 11.1  Launcher 1.6
	<b>Notes:</b> <ul style="list-style-type: none"> <li>Windows Server 2012 R2, Windows Server 2012, and Windows Server 2008 R2 include Microsoft .NET Framework Version 3.5/3.5.1. No separate software installation is necessary.</li> <li>The <i>Metasys</i> Advanced Reporting System requires an ADX. The SCT must be online and accessible to the ADX at all times.</li> </ul>	
<b>Optional Hardware</b>	Any network or local printer supported by the qualified Windows operating system.	

- Our computer platform and memory recommendations are not meant to imply that older or slower machines are not usable. Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for more information regarding computer/server recommendations.
- For best performance, use SAS hard drives, not SATA hard drives.
- ADX prerequisite software includes the Windows operating system and SQL Server software, Windows .NET Framework, and any other software or service packs required for your ADX configuration.
- Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for specific Microsoft Windows operating system settings that may be required for your *Metasys* system configuration.
- To use *Metasys* Advanced Reporting System, selection of Microsoft SQL Server Reporting Services during SQL Server installation is required.
- For SQL Server 2014 software or SQL Server 2012 software, you must purchase a core license for each individual processor core (with a minimum of four core licenses). For example, if you have a single processor with dual cores, purchase four core licenses (the minimum) for SQL Server 2014 software or SQL Server 2012 software.
- To use SQL Server 2014 with *Metasys* products, you must install Microsoft cumulative update package 3 (KB2984923) for SQL Server 2014. To download the update package, visit <http://support.microsoft.com/kb/2984923/>.



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