

## Metasys for Validated Environments

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 clean rooms, 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.

**Figure 1: MVE electronic signature and required annotation window**

The screenshot shows a web-based form window titled "VE - Validated Environments". It is divided into three main sections:

- Authentication:** Contains two input fields: "Username:" with a masked password "\*\*\*\*\*" and "Password:" with a masked password "\*\*\*\*\*".
- Electronic Signature:** Contains a "Reason Text:" dropdown menu currently set to "Operator Action". Below it is a text area containing the text "Operator Action".
- Annotation:** Contains an "Annotation Text:" dropdown menu currently set to "User Command". Below it is a text area containing the text "User Command".

At the bottom of the window, there are two buttons: "OK" and "Cancel".

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 adheres to 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 Metasys ADX, which provides the ability to configure supervisory engines as validated devices. Purchase and license MVE software separately from the ADX.

## Application documentation

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

## Features and benefits

### Advanced reporting

Metasys Advanced Reporting System provides pre-configured reports that assist with high-level data analysis.

### Secured data protection

At Release 12.0 you cannot use the MVE system to log on to an MVE validated engine to remove or clear events.

## Secure user access

Authenticates users and authorizes access privileges to protect system integrity. Requires a unique username and complex password for each user.

## Microsoft Active Directory (AD) Lightweight Directory Access Protocol (LDAP) integration

Authenticates your identity against AD for Metasys access as a user of the system.

## MVE electronic signatures and MVE required annotations

All system changes can be configured to require MVE electronic signatures, or MVE required annotations, or both.

## Dynamic Data Access (DDA)

Access to the email DDA, Syslog DDA, Printer DDA, and Simple Network Management Protocol (SNMP) DDA.

## Time-stamped audit and event trails

Generate traceable alarm and event transactions in chronological order. This is with the MVE electronic signature symbol and information and/or with the MVE required annotations.

## 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.

## Ordering information

Use the following table to order MVE products. For additional ordering information, refer to the *Metasys*

The following table lists the existing upgradeable MVE Release 10.1 and Release 11.0 validated engines as well as the Release 12.0 MVE supported validated engines:

**Table 2: MVE validated engines**

Release 10.1	Release 11.0	Release 12.0
MS-NAE5510-2	MS-NAE5510-2	—
MS-NAE5510-3	MS-NAE5510-3	MS-NAE5510-3
M4-SNE22000-0	M4-SNE22000-0 M4-SNE22001-0 M4-SNE22002-0	M4-SNE22000-0 M4-SNE22001-0 M4-SNE22002-0

*System Software Purchase Options Product Bulletin (LIT-12011703).*

**Table 1: Ordering information**

Code numbers	Description
MS-MVE-0	MVE new project software
MS-MVE-6	MVE upgraded software
MS-MVE-SCS	MVE Site Subscription Service - 1 Year
MS-MVE-SC3	MVE Site Subscription Service - 3 Years

The user capacity of the MVE software is determined by the user capacity of the purchased ADX software. For example, if you purchase a 25-user ADX, ordering MS-MVE-0 supports a 25-user MVE site.

- ❗ **Note:** You cannot use REST APIs with MVE. When MVE is installed, the REST APIs are disabled for use and cannot be re-enabled.
- ❗ **Note:** You cannot use MVE with Metasys UI or Mobile Access Portal (MAP).
- ❗ **Note:** At Release 12.0, SMP UI is a licensable feature that is included with the MVE license. When you order an MVE software license, you do not need to order a separate SMP UI license at 12.0.
- ❗ **Note:** The DIS1700 or DLK0350 Local Controller Display controllers do not support electronic signatures or required annotations.
- **Important:** You can only install MVE software on a Metasys ADX. The MVE software, the ADX and the validated network engines on the Metasys network must all be at Release 12.0.

**Table 2: MVE validated engines**

Release 10.1	Release 11.0	Release 12.0
M4-SNC25150-0	M4-SNC25150-0 M4-SNC25151-0 M4-SNC25152-0	M4-SNC25150-0 M4-SNC25151-0 M4-SNC25152-0
M4-SNC25150-04	M4-SNC25150-04 M4-SNC25151-04 M4-SNC25152-04	M4-SNC25150-04 M4-SNC25151-04 M4-SNC25152-04
M4-SNC16120-0	M4-SNC16120-0 M4-SNC16121-0 M4-SNC16122-0	M4-SNC16120-0 M4-SNC16121-0 M4-SNC16122-0
M4-SNC16120-04	M4-SNC16120-04 M4-SNC16121-04 M4-SNC16122-04	M4-SNC16120-04 M4-SNC16121-04 M4-SNC16122-04

- ① **Note:** MS-NAE5510-2 is not offered at Release 12.0.
- ① **Note:** At Release 11.0, MVE validated engines ending in SNxxxxx2-xx require the 11.0.3 patch. For more information, see Flash Sheet LIT-2022F10.
- ① **Note:** MVE electronic signature and required annotations are not supported on an integral or remote display on the validated SNC engines.

The built-in features of these products facilitate Part 11 compatibility, coupled with the MVE special validated documentation. Validated engines are only supported with N2 or BACnet MS/TP devices. MVE is not supported on IP devices such as the CGE series, CVE series, or FAC4911-0.

The ADX manages and protects the long-term storage of event and alarm messages, as well as trend, audit, and system configuration data. The network engines supervise the activities of N2 and MS/TP field controllers.

- ① **Note:** The ADX, MVE software, and the MVE validated engines must all be at Metasys Release 12.0 system release level.

## Technical specifications

**Table 3: MVE, Extended Architecture System Requirements**

Required server platform <sup>1</sup>	Refer to the Technical Specifications in the <i>Application and Data Server (ADS) and Extended Application and Data Server (ADX) Product Bulletin (LIT-1201525)</i> ① <b>Note:</b> MVE is only tested and supported with the ADX.
Required memory	<ul style="list-style-type: none"> <li>• Unified 10 or 25 User ADX: 16 GB to 32 GB</li> <li>• Unified 50 or 100 User ADX: 32 GB</li> <li>• Split 10 or 25 User ADX: 16 GB. Web/application server and database server for 10 or 25 User ADX.</li> <li>• Split 50 or 100 User ADX: 32 GB</li> <li>• For VM hosts, allocate a minimum of 8 GB of RAM</li> </ul>

**Table 3: MVE, Extended Architecture System Requirements**

Supported operating systems and database software <sup>2</sup>	Windows® Server® 2019 (version 1809 or later) (64-bit) <ul style="list-style-type: none"> <li>• SQL Server® 2019 with CU14 (64-bit)</li> <li>• SQL Server® 2017 with CU27 (64-bit)</li> <li>• SQL Server® 2016 with SP2 CU17 (64-bit)</li> </ul> <p>① <b>Note:</b> The Metasys Advanced Reporting System software does not support SQL Server 2019. Only use SQL Server 2019 if Metasys Advanced Reporting System software is not used with the ADX. The Metasys Advanced Reporting System supports SQL Server 2017 and SQL Server 2016.</p>
	Windows® Server® 2016 (version 1607 or later) (64-bit) <ul style="list-style-type: none"> <li>• SQL Server® 2019 with CU14 (64-bit)</li> <li>• SQL Server® 2017 with CU27 (64-bit)</li> <li>• SQL Server® 2016 with SP2 CU17 (64-bit)<sup>3</sup></li> </ul>
Supported virtual environments	Microsoft Hyper-V™ VMware®
Network communication	Ethernet network interface card (100 Mbps or 1000 Mbps)
Supported user interfaces	Metasys Site Management Portal
Additional software included in the ADX download	Metasys Database Manager Microsoft .NET Framework Version 4.7.2 Launcher software Metasys Advanced Reporting System software <p>① <b>Note:</b></p> <ul style="list-style-type: none"> <li>• The Metasys Advanced Reporting System requires an ADX. The SCT must be online and accessible to the ADX at all times.</li> <li>• Metasys Advanced Reporting System does not support SQL Server 2019. It does support SQL Server 2017 and SQL Server 2016.</li> <li>• Windows Server 2016 includes Microsoft .NET Framework Version 3.5/3.5.1. No separate software installation is necessary.</li> </ul>
Optional hardware	Any network or local printer supported by the qualified Windows operating system.
Optional software	Graphic Generation Tool CCT software SCT software Metasys Export Utility

1 Our computer platform and memory recommendations do not 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.

2 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.

3 For SQL Server 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 software.

## Single point of contact

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JOHNSON CONTROLS C/O CONTROLS PRODUCT MANAGEMENT NO. 32 CHANGJIANG RD NEW DISTRICT WUXI JIANGSU PROVINCE 214028 CHINA	JOHNSON CONTROLS VOLTAWEG 20 6101 XK ECHT THE NETHERLANDS	JOHNSON CONTROLS TYCO PARK GRIMSHAW LANE MANCHESTER M40 2WL UNITED KINGDOM	JOHNSON CONTROLS 5757 N GREEN BAY AVE. GLENDALE, WI 53209 USA

## Product warranty

This product is covered by a limited warranty, details of which can be found at [www.johnsoncontrols.com/buildingswarranty](http://www.johnsoncontrols.com/buildingswarranty).

## Software terms

**Use of the software that is in (or constitutes) this product, or access to the cloud, or hosted services applicable to this product, if any, is subject to applicable end-user license, open-source software information, and other terms set forth at [www.johnsoncontrols.com/techterms](http://www.johnsoncontrols.com/techterms).** Your use of this product constitutes an agreement to such terms.

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## Contact information

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[www.johnsoncontrols.com/locations](http://www.johnsoncontrols.com/locations)

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