

Molecular Devices® High-Content Screening

MetaXpress® Software
MetaXpress® PowerCore™ Software
MDCStore™ Data Manager
AcuityXpress™ Software

IT Requirements

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Molecular Devices High-Content Screening IT Requirements

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Contents

Chapter 1: Introduction	5
Definitions	5
Obtaining Support	6
Chapter 2: Typical Configurations for Multi-User Environments	7
Chapter 3: About the Installation Process	9
Chapter 4: Pre-Installation Requirements	11
Documentation	11
Hardware	11
Database	12
Network Connections	13
Instrument Workstation and Domain Name	13
Windows Permissions	14
File Encryption	14
Chapter 5: Firewall, Network Ports, and Protocols	15
Chapter 6: Customer Pre-Install Checklist	17
Chapter 7: On-Site Installation and On-Site Training Requirements	19
Internet Connection	19
Computer Name Change	19
Windows User Accounts	19
Connection to Database Server and Image Storage Location	19
Chapter 8: Post-Installation Requirements	21
Instrument Workstation	21
Personal Workstation with the MetaXpress Software and the AcuityXpress Software	26
Server and Client on Server Computer with the MetaXpress PowerCore Software	28
Database on Server Computer	30
Image Server	32
MDCStore Xchange Service	33
Chapter 9: Post-Installation Maintenance Requirements	35



This guide contains critical information for users and IT professionals about the following Molecular Devices high-content screening (HCS) products:

- MetaXpress® Software
- MetaXpress® PowerCore™ Software
- MDCStore™ Data Manager
- AcuityXpress™ Software

Definitions

Instrument workstation or acquisition workstation is the computer that is connected to the Molecular Devices imaging hardware.

Personal workstations or offline workstations are any computers running the MetaXpress Software, the MetaXpress PowerCore Software, or the AcuityXpress Software that are not connected to the Molecular Devices imaging hardware.

Image storage locations are any computers or servers housing the images (TIFF files). The MDCStore database stores the path to the images. The connection to the image storage can be defined using a UNC path or with an optional network service using the MDC File Server application.

Obtaining Support

Molecular Devices is a leading worldwide manufacturer and distributor of analytical instrumentation, software, and reagents. We are committed to the quality of our products and to fully supporting our customers with the highest level of technical service.

Our Support website, www.moleculardevices.com/service-support, describes the support options offered by Molecular Devices, including service plans and professional services. It also has a link to the Molecular Devices Knowledge Base, which contains documentation, technical notes, software upgrades, safety data sheets, and other resources. If you still need assistance after consulting the Knowledge Base, you can submit a request to Molecular Devices Technical Support.

You can contact Molecular Devices Technical Support by submitting a support request through the Molecular Devices Knowledge Base at mdc.custhelp.com. You can also submit a support request by phone. For regional support contact information, go to www.moleculardevices.com/contact.

Database Support

To get the best performance from Molecular Devices High-Content Screening, Molecular Devices recommends that you seek assistance to install, configure, and optimize database server and client products. In particular, an experienced database administrator must configure, optimize, and tune your database for your facility. If you do not have a database administrator, contact Molecular Devices for a list of consultants.

Oracle Database and Microsoft SQL Server are not Molecular Devices products, and the instructions provided with Molecular Devices documentation for these products are offered for guidance only. For details on database installation, security, operation, and optimization, contact the appropriate software vendor.

Chapter 2: Typical Configurations for Multi-User Environments

2

High-content screening (HCS) generates vast amounts of data. An ImageXpress® instrument can generate 250 GB to 500 GB of data each day.

As an example, the figure below shows a typical network configuration for a multi-user environment with the optional MetaXpress PowerCore Software.

This configuration features a single instrument with multiple workstations that uses multiple databases and file storage locations. If this system generated just 100 GB of image data per day for five days a week, it would require 500 GB of storage per week or over 25 TB per year. (Your actual throughput will be different.)

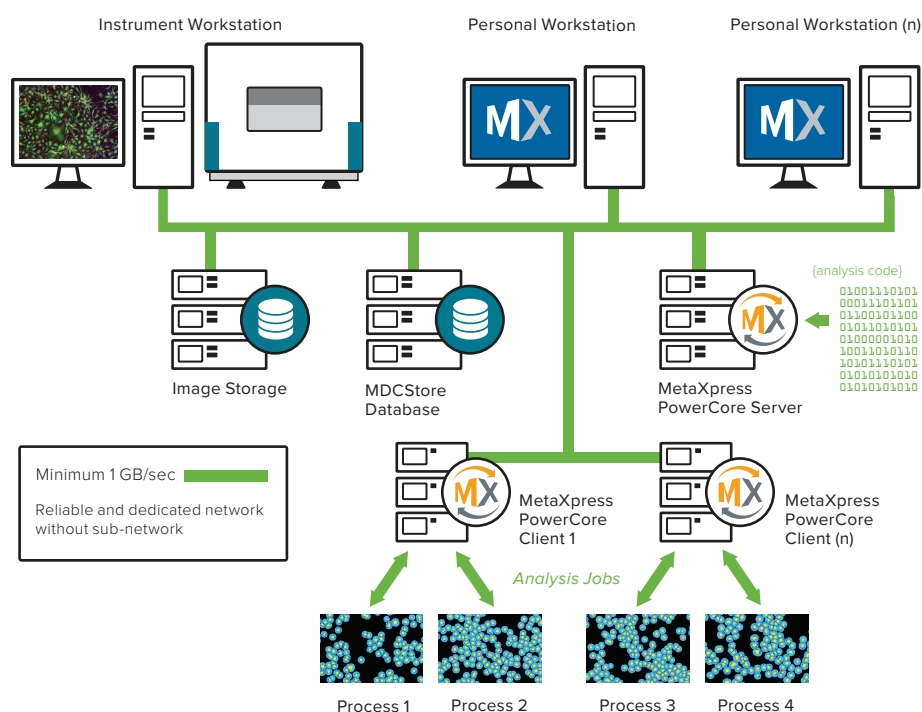


Figure 2-1: Typical network configuration for multi-user environments

Before installing any component of the Molecular Devices HCS product, it is critical to review your IT environment. Contact your Molecular Devices sales representative to schedule an overview of the Molecular Devices Complete Solution HCS IT Presentation. Depending on the needs of your organization, Molecular Devices can suggest a variety of configurations.



Chapter 3: About the Installation Process

3

The installation of the ImageXpress® instrument and the instrument workstation is performed by a Molecular Devices Field Service Engineer (FSE).

You are responsible for the installation and maintenance of all software on other clients and servers, including Molecular Devices software and the database software (that is, Oracle Database or Microsoft SQL Server). Molecular Devices recommends that these tasks be performed by an information technology professional, such as a Database Administrator (DBA), to manage and optimize the Molecular Devices software and database for your facility. You can consult with the Molecular Devices Technical Support for guidance. See [Obtaining Support on page 6](#) for details.



Chapter 4: Pre-Installation Requirements

4

The installation and maintenance of all software on other clients and servers, including Molecular Devices software and the database software, such as Oracle Server or Microsoft SQL Server, should be performed by the customer.

Documentation

Review the following documents:

- *Molecular Devices High-Content Screening Computer Specifications*
- *MDCStore 2.3 Installation and Update Guide*
- *MDCStoreTools 1.3 Guide*

These documents are available in the Molecular Devices Knowledge Base at mdc.custhelp.com.

Hardware

Get the appropriate hardware, including the server computer and the offline workstations.

Computers, operating systems, and database server software used to run Molecular Devices High-Content Screening must meet the minimum specifications provided in the *Molecular Devices High-Content Screening Computer and Server Requirements for Offline Analysis document*, available on the Molecular Devices website.

Database

Prepare the following:

- **Database License:** An instrument workstation supplied by Molecular Devices includes a demo license of Microsoft SQL Server Express. This database is limited to 10 GB of data, which is only sufficient for initial test images. For best results, purchase a full database license.
- **Hosting Server:** For optimal performance, the computer hosting the MDCStore database should be dedicated to the Molecular Devices database instance.
- **IP Address and DNS:** Assign a routable IP address and DNS resolvable name path for the database server computer.
- **Database Engine:** Install the Oracle or Microsoft SQL Server software on the designated server computer per instructions as outlined in the *MDCStore Installation and Update Guide*.
With Oracle, install the Oracle database client software on the instrument workstation and all offline workstations.
- **Database Accounts for Installation:** The MDCStore database on a database server requires use of the “sa” (MS SQL Server) or “system” (Oracle) user account installation, migration, and updates. In addition, see User Accounts below.
- **MDCStore Database:** Install the MDCStore database following instructions in the *MDCStore Installation and Update Guide*. The script (Oracle or Microsoft SQL Server) or installer (Microsoft SQL Server only) needed for the MDCStore database installation is available on the MetaXpress installation media or from the Molecular Devices Knowledge Base at mdc.custhelp.com.
- **MDCStoreTools:** Install the MDCStore Tools Utility following instructions in the MDCStore Tools Utility guide. The installer is available on the MetaXpress installation media or from the Molecular Devices Knowledge Base at mdc.custhelp.com.
- **User Accounts:** User accounts must be created with the MDCStore Tools Utility. After the MDCStore database schema is installed, Molecular Devices strongly recommends creating a separate Lab Head account with administrative privileges. Details of this procedure are described in the "Managing User Accounts and Groups" section of the *MDCStoreTools Data Management Utility User Guide*. Molecular Devices recommends against using the “sa” (MS SQL Server) or “system” (Oracle) account for normal operation.

Network Connections

Prepare the following:

- **Firewalls and Ports**

The network connection between the instrument workstation and a database server or image file server requires that all firewalls and routers be configured to allow data transfer between all the applicable ports. Default ports for the database and file server manager are listed in [Table 5-1](#).

- **Network Speed**

In order to ensure the full capability of data transfer, we highly recommend gigabit-capable firewalls, routers and cabling (cat 6) for use with all applicable computers. Unreliable, non-dedicated networks and communication across sub-networks degrade the performance of data transfer.

Instrument Workstation and Domain Name

You have the option of configuring connections by computer name (preferred) or IP address. If an IP address is used, it must be a static address. If DHCP is required to be enabled, then a constant IP address must be assigned to each database and file server.

For configuring connections by computer name, first verify that you can ping the database and file server computers by name from the location where the instrument workstation will be installed.




Note: For details on preventing and resolving login issues after changing the computer name of the instrument workstation, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, and search for article number **20162**.

Windows Permissions

You are responsible for installing and maintaining all software on other clients and servers, including Molecular Devices software and the Oracle or Microsoft SQL Server database software.

You are responsible for account management and user access control between the instrument workstation, offline workstation(s), any database servers, image storage locations, and file servers.

Grant all Windows users read/write/modify permission to the image storage location.

 **Tip:** You may want to set up a workgroup and add the different Windows users to this group. It is not recommended to configure this connection as a mapped drive since the UNC path might be different depending on the Windows user.

Installation of Molecular Devices software and software updates will require administrator privileges on all applicable computers.

Your IT department may require that administrative rights on offline workstations be disabled. If this is the case, you must set up folder permissions accordingly. For details, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, and search for article number **19901**.

File Encryption

File encryption and compression can affect data access and data analysis. Molecular Devices does not guarantee performance of the High-Content Screening software on encrypted computers or on computers with automatic compression. If you must use encryption, Molecular Devices recommends using a block-level encryption (for example, Microsoft BitLocker), which does not impact performance as much as file-level encryption.

Table 5-1: Firewall, Network Ports and Protocols for the Molecular Devices Software

Program	Protocol	Ports	Notes
MDC File Server (optional) <ul style="list-style-type: none"> Optional; alternatively use a UNC path Windows utility program is used to move images between analysis computers and final storage destination via TCP port. Each file server needs a dedicated port. Involves all computers accessing the images: computer running MDC File Server, Image Storage computer, ImageXpress computer, MetaXpress analysis computer(s), PowerCore computer(s), Xchange computer(s), AcuityXpress computer(s), MDCStoreTools computer(s). 	TCP/IP	9200 ¹	MDC File Server not needed if UNC option is used for image storage
MDCStore Data Manager <ul style="list-style-type: none"> Database containing all the imaging metadata and analysis data (except for the images themselves) Involves all computers accessing the database: Database Server, ImageXpress computer, MetaXpress analysis computer(s), PowerCore computer(s), Xchange computer(s), AcuityXpress computer(s), MDCStoreTools computer(s). 	TCP/IP	1433 ¹ (if default instance of SQL Server) Dynamic ¹ (if named instance of SQL Server ²) add sqlservr.exe 1521 ¹ (if Oracle) Possible TLS Protocol	Named SQL instances (anything other than the default MSSQLSERVER) use a dynamic port. The dynamic port used by a named SQL instance may change when SQL Server is restarted; therefore, it is recommended to keep SQL Browser running when using a named instance. Alternatively, the port used by a named SQL instance can be configured. Note: TLS protocol blocking can have an effect depending on the MS SQL version and SQL drivers used.

Table 5-1: Firewall, Network Ports and Protocols for the Molecular Devices Software (continued)

Program	Protocol	Ports	Notes
License Key Driver for MetaXpress and PowerCore software <ul style="list-style-type: none"> • spnsrvnt.exe needed for access to the software license. • Involves all MetaXpress Software stations using network license, all servers with MetaXpress PowerCore Software, all computers with MDCStore Xchange Service, key host computer(s). 	TCP/IP	6002	Not needed for computers running MetaXpress with a local key, for example, the ImageXpress computer
	UDP	6001	
MetaXpress PowerCore Server and Clients (optional) <ul style="list-style-type: none"> • Communication between client and server • Involves all computers running PowerCore Server and/or PowerCore Client. 	TCP/IP	20000 ¹	Add exceptions to the PowerCore Client Firewall settings <ul style="list-style-type: none"> • MetaXpressPowerCoreClient.exe AM • Executioner.exe
License Key Driver for AcuityXpress Software (optional) <ul style="list-style-type: none"> • Needed if the license key is installed on a different computer. • Involves all computers running AcuityXpress, key host computer(s). 	TCP/IP	475 and 1947	Not needed if AcuityXpress is only run on the local computer hosting the license key.
MDCStore™ Xchange Service (optional) <ul style="list-style-type: none"> • Import export utility • Involves all computers running Xchange Server and/or Xchange Client 	TCP/IP	8080	

¹ Ports are defaults and can be reconfigured.

² The dynamic port used by a named instance may change when SQL Server is restarted, so it is recommended to keep SQL Browser running when using a named instance. See ([technet.microsoft.com/en-us/library/ms181087\(v=sql.105\).aspx](https://technet.microsoft.com/en-us/library/ms181087(v=sql.105).aspx)) for details.

Alternatively, the port used by a named instance can be configured. See docs.microsoft.com/en-us/sql/database-engine/configure-windows/configure-a-server-to-listen-on-a-specific-tcp-port) for details.



Tip: Molecular Devices recommends that all software (including license keys) is installed on the same domain and subnetwork.

Chapter 6: Customer Pre-Install Checklist

6

Table 6-1: Customer Pre-Install Checklist

Instrument/ acquisition computer:		
Full computer name of acquisition computer		
IP address of acquisition computer (static recommended)		
ODBC driver installed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Internet connection established on the acquisition computer	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Database computer:		
Database installed	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Database program being used	<input type="checkbox"/> MS SQL Server	<input type="checkbox"/> Oracle
Version of the database server application installed		
Version of the ODBC driver		
Full computer name and instance name		
IP address of database computer (static recommended)		
MDCStore Schema installed	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Name of MDCStore schema		
Firewalls opened (table 1-1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
MDCStoreTools installed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Image Storage Location:		
UNC path or MDC File Server?		
Full computer name and path		
IP address of file server computer (static recommended)		
File server: Port number assigned for (9200 or higher suggested)		
MDCStore Image Storage Location configured with the MDCStore Tools Utility	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Work stations:		
ODBC driver installed (Oracle ODBC client)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Firewalls opened (Table 5-1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Windows user account configured with access to Image storage	<input type="checkbox"/> Yes	<input type="checkbox"/> No



Chapter 7: On-Site Installation and On-Site Training Requirements

7

During installation, the Molecular Devices Field Service Engineer (FSE) installs the instrument and sets up the instrument workstation.

Once installation is complete, a Molecular Devices Field Application Scientist (FAS) conducts on-site training to familiarize users with the instrument and software.

Internet Connection

Molecular Devices recommends having an Internet connection available on the instrument workstation during installation. An Internet connection enables Molecular Devices personnel to download the latest version of the MetaXpress software and obtain the required software registration codes. The installation process may be prolonged if an Internet connection is not available.

When installation is complete, an Internet connection may be required for remote support by Molecular Devices.

Computer Name Change

Some IT departments require that computer names conform to a corporate IT structure, which may make it necessary to change the name of the instrument workstation. In addition, if multiple ImageXpress systems are installed on the same network, update the names of the new computers to avoid duplicate names on the network.

In either case, any updates to computer names should be done during installation to allow the FSE to properly configure the computer connections with the new computer name. ODBC connections and image locations may also need to be updated. The FSE will ensure that the people responsible for making the changes to the computer name and Windows user accounts are available at the time of the system installation and during the scheduled training.

Windows User Accounts

If new Windows user accounts are created on the instrument workstation before or during the FSE visit, make sure that the Molecular Devices representative has access to a full administrative account in order to complete installation.

Connection to Database Server and Image Storage Location

The high-content screening system is typically installed as a standalone system. Because of the large amounts of data that are being acquired, this is not a recommended long-term configuration. See [Post-Installation Maintenance Requirements on page 35](#) for details.



After the instrument is installed, it must be connected with an external database and storage location as outlined in the [Typical Configurations for Multi-User Environments on page 7](#).

Installation of Software on Offline Workstations and Servers

You are responsible for installing the MetaXpress Software, MetaXpress PowerCore Software, AcuityXpress Software, MDCStore Xchange Service, MDCStore Tools Utility and MDCStore Data Manager on all other computers and servers. Refer to the appropriate installation procedures for instructions.

If you experience any issues with installation, contact Molecular Devices Technical Support. See [Obtaining Support on page 6](#) for details.

Instrument Workstation

After the instrument is installed, Molecular Devices strongly recommends that the instrument workstation be connected with an external database and storage location as outlined in the [Typical Configurations for Multi-User Environments on page 7](#).

Documentation

Enter information in [Table 6-1: Customer Pre-Install Checklist on page 17](#).

Personnel

Designate the following personnel for the following post-installation tasks:

- An IT representative able to create Windows user accounts.
- An end-user to test the software after the IT person makes changes to ensure the instrument and software is working as expected.

Domain Name

Some IT departments require that computer names conform to the corporate IT structure and require that the name of the instrument workstation must be changed. If this case, this change should be made during the system installation to allow the on-site Molecular Devices representative to properly configure the computer connections with the new computer name.

For details on preventing and resolving login issues after changing the computer name of the instrument workstation, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, and search for article number **20162**.

Internet Connection

Molecular Devices recommends having a live Internet connection available at all times to allow the end-user to do the following:

- Access the Molecular Devices Support website at www.moleculardevices.com/service-support.
- Access the Molecular Devices Knowledge Base at mdc.custhelp.com.
- Interact with Molecular Devices Technical Support.
- Update the software.

Software

The instrument workstation includes licenses for the operating system and other associated software applications. These licenses are part of your installation package. It is your responsibility to secure these licenses and have them available for future service visits. If the instrument workstation requires software re-installation during a future service visit, you must provide the required licenses.

Hard Drive Usage

A dedicated hard drive or hard drive partition is used for data storage.

It is your responsibility to monitor the available storage space on the hard drives.



CAUTION! Do not exceed 80% of the storage space.

Data Backup

It is your responsibility to back up your image data. Image data can be in the database or in an image storage location.

You may also want to save a copy of the c:\Backup folder to an external storage source. This folder contains instrument configuration files, which can be installed on a new computer, if needed.

Anti-Virus Software

The instrument workstation provided by Molecular Devices ships with anti-virus software.

It is your responsibility to keep the anti-virus software configuration current to avoid security risks and virus threats to the computer.

Molecular Devices is not responsible for viruses or security attacks on your computer.



Note: Stringent anti-virus settings can affect the rate of data transfer or operation of the imaging instrument, the instrument workstation, the MDCStore database, or any client of the database. After setting the anti-virus software, verify that the anti-virus settings do not change the settings or performance of the overall system.

You can uninstall the provided anti-virus software and install alternate anti-virus software. If you do so, but the following settings are highly recommended:


- Disable scan on access.
- Disable auto updates; preferably set a known schedule for the end users. Updating the virus definitions while the instrument workstation is in use can result in performance issues and should be avoided.
- Provide the ability to disable virus scanning for troubleshooting purposes.
- Exclude the following:
 - MetaXpress installation folder (such as, [x]:\MX6)
 - Image (.tif) files
 - Windows temp folders
 - mmapp.exe
 - axotrace.exe
 - mmadmin.exe
 - uic_ddm.exe
 - metaxpress.configure.exe
 - Camera files (for Andor):
 - c:\bitflow
 - c:\Program Files\Andor [xxx]
 - Camera files (for PCO):
 - C:\Program Files\SiliconSoftware
 - c:\BGInfo

Temporary Files

Ensure that your anti-virus software or Windows does not remove temporary files and folders, particularly the following files and folders in the c:\Users[Windows user]\AppData\Local\Temp\ and c:\Windows\Temp:

- MetaXpress Custom Module Editor (folder and contents)
- PowerCoreClient (folder and contents)
- MetaXpressAnalysis (folder and contents)
- MetaXpressCustomModuleEditorConfiguration.xml
- MetaXpressImageAnalysisStatusLog.xml
- MetaXpressAutofocusReport.txt

Windows 10 gives you some control over how temporary files are managed. If you are using Windows 10, do the following:

1. In Windows, right-click  **Start**, and select **System**.
2. On the left, select **Storage**.
3. Click **Change How We Free Up Space**.
4. Set **Delete Temporary Files That My Apps Aren't Using** to **Off**.

Windows Updates

Manual Windows updates are highly recommended.

Automatic Windows updates should be disabled because they can interrupt the functionality of the instrument and can cause the computer to unexpectedly restart. At minimum, the option to automatically restart the computer after a windows update should be disabled.

Molecular Devices Software

You are responsible for connecting the instrument workstation to the external database and image storage location. See the *MDCStore Database Schema Installation and Update Guide* for instructions.



Note: Separate ODBC connections are needed for the AcuityXpress Software and the MetaXpress Software (32-bit and 64-bit).

Molecular Devices releases software patches. You are responsible for keeping your software updated with the latest patch.



Note: For links to the latest software patches, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, and search for article number **18817**. If you want to receive an email notification when new patches are posted, click the **Notify Me** link on that page.

Sleep Mode and Hibernation

Configure the instrument workstation to never go into sleep, standby, or hibernate. Disable sleep mode and hibernation mode of the computer and USB devices.

Windows User Permissions

Image Storage Location: Molecular Devices recommends setting up a workgroup (but not a mapped drive since the UNC path might be different depending on the windows user) and adding the various Windows users to this group.

Alternatively, choose the location of the image storage location, and then do one of the following:

- Grant all Windows users read/write/modify permission to this location.
- Use the MDC File Server software and confirm that the appropriate TCP port is available.

Software Administrator: A minimum of one assignment is required. This software administrator will need full local administrative permissions to install Molecular Devices updates and software patches as they become available.

Restricted User Administrative Rights: Your IT department may require that administrative rights on offline workstations be disabled. If this is the case, you must set up folder permissions accordingly. For details, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, and search for article number **19901**.

Support User: Molecular Devices recommends adding an account for Molecular Devices Technical Support for use during service visits.

Replacement Instrument Workstation

The instrument workstation provided by Molecular Devices is an integral part of the high-content screening system and is covered under warranty and any subsequent service plans. If this computer fails, contact Molecular Devices Technical Support for a replacement. See [Obtaining Support on page 6](#) for details.



CAUTION! Molecular Devices strongly recommends that you do not update or replace the instrument workstation on your own. If you do update or replace the instrument workstation, you may invalidate the installation of the software or the connection with the instrument. In this case, you will be responsible for the cost if Molecular Devices Technical Support is needed to troubleshoot instrument issues (even when the instrument is covered under warranty or service plan). It is also possible that Molecular Devices Technical Support will be unable to troubleshoot instrument issues.

Contact Molecular Devices before attempting to update or replace the instrument workstation.

Personal Workstation with the MetaXpress Software and the AcuityXpress Software

Required Documentation

- *Molecular Devices High-Content Screening Computer and Server Requirements for Offline Analysis* (referred to below as the Computer Specifications document)
- *MetaXpress High-Content Image Acquisition & Analysis Software Suite Installation and Update Guide* (referred to below as the Install Guide)
- *AcuityXpress High-Content Informatics Software Installation Guide* (also referred to below as the Install Guide)

These documents are available in the Molecular Devices Knowledge Base at mdc.custhelp.com.

Minimum Computer Specification

To run the MetaXpress Software and the AcuityXpress Software, the computer must meet the minimum specifications described in the Computer Specifications document.

Region Control Panel

Set **Format** field on the Region control panel to **English (United States)**.

Windows Permissions

You are responsible for account management and user access control between the instrument workstation, offline workstation(s), any database servers, image storage locations, and file servers.

The MetaXpress Software and the AcuityXpress Software require a local administrator account for installation. See the appropriate Install Guide for details.

Your IT department may require that administrative rights on offline workstations be disabled. If this is the case, you must set up folder permissions accordingly. For details, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, and search for article number **19901**.

Image Storage Location

Molecular Devices recommends setting up a workgroup (but not a mapped drive since the UNC path might be different depending on the windows user) and adding the various Windows users to this group.

Alternatively, choose the location of the image storage location, and then do the following:

- Grant all Windows users read/write/modify permission to this location.
- Use the MDC File Server software and confirm that the appropriate TCP port is available.

Virtual Computer Configuration

Molecular Devices offers only limited support for software installed on a virtual computer configuration. You will need a network license key for MetaXpress Software instead of a local key.

Firewalls

Open appropriate firewalls as specified in [Table 5-1](#).

Database Connection



Note: Separate ODBC connections are required for the AcuityXpress Software and the MetaXpress Software (32-bit and 64-bit). See the applicable Installation Guide for details.

You are responsible for connecting offline workstations to the external database and image storage location. See the *MDCStore Database Schema Installation and Update Guide* for details.

Molecular Devices Software

Molecular Devices may release software updates. You are responsible for updating the software to the latest version.

To be notified of software updates, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, search for article number **18817**, and click **Notify Me** in the article.

Server and Client on Server Computer with the MetaXpress PowerCore Software

You are responsible for installing the MetaXpress Software, MetaXpress PowerCore Software, AcuityXpress Software, MDCStore Xchange Service, MDCStore Tools Utility, and MDCStore Data Manager on all other computers and servers. Refer to the appropriate installation procedures for instructions.

Required Documentation

- *Molecular Devices High-Content Screening Computer and Server Requirements for Offline Analysis* (referred to below as the Computer Specifications document)
- *MetaXpress PowerCore High-Content Distributed Image Analysis Software Installation and User Guide* (referred to below as the Install Guide)

These documents are available in the Molecular Devices Knowledge Base at mdc.custhelp.com.

Minimum Computer Specification

To run the MetaXpress PowerCore Software, the computer must meet the minimum specifications described in the Computer Specifications document.

Virtual Computer Configuration

Molecular Devices offers only limited support for software installed on a virtual computer configuration.

Region Control Panel

Set **Format** field on the Region control panel to **English (United States)**.

Windows Permissions

You are responsible for account management and user access control between the instrument workstation, offline workstation(s), any database servers, image storage locations, and file servers.

The MetaXpress PowerCore Software requires a local administrator account for installation. See the Install Guide for details.

Image Storage Location

Molecular Devices recommends setting up a workgroup (but not a mapped drive since the UNC path might be different depending on the windows user) and adding the various Windows users to this group.

Alternatively, choose the location of the image storage location, and then do one of the following:

- Grant all Windows users read/write/modify permission to this location.
- Use the MDC File Server software and confirm that the appropriate TCP port is available.

Client Logon Settings

The MetaXpress PowerCore Software Client is a service and in order to access the images, this service needs to be configured with appropriate logon permissions. See the Install Guide for details.

Firewalls and Anti-Virus Software

Firewalls and anti-virus software must permit UDP and TCP communications as specified in [Table 5-1](#).

Database Connection

You are responsible for connecting offline workstations to the external database and image storage location. See the *MDCStore Database Schema Installation and Update Guide* for details.



Note: MetaXpress PowerCore Software Server requires a 64-bit ODBC connection. See the Computer Specification document for details.

Molecular Devices Software

Molecular Devices may release software updates. You are responsible for updating the software to the latest version.

To be notified of software updates, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, search for article number **18817**, and click **Notify Me** in the article.

Database on Server Computer

Required Documentation

- *Molecular Devices High-Content Screening Computer and Server Requirements for Offline Analysis* (referred to below as the Computer Specifications document)
- *MDCStore 2.3 Installation and Update Guide* (referred to below as the Install Guide)

These documents are available in the Molecular Devices Knowledge Base at mdc.custhelp.com.

Minimum Computer Specification

To run the MDCStore Data Manager, the computer must meet the minimum specifications described in the Computer Specifications document.

Virtual Computer Configuration

Molecular Devices offers only limited support for software installed on a virtual computer configuration. For virtual computer configurations, follow the recommendations from database provider.

Region & Language Settings

Set Format and Keyboard to English (United States). Install and configure the database server application using US English settings.

Windows Permissions

You are responsible for account management and user access control between the instrument workstation, offline workstation(s), any database servers, image storage locations, and file servers.

Image Storage Location

Molecular Devices recommends setting up a workgroup (but not a mapped drive since the UNC path might be different depending on the windows user) and adding the various Windows users to this group.

Alternatively, choose the location of the image storage location, and then do one of the following:

- Grant all Windows users read/write/modify permission to this location.
- Use the MDC File Server software and confirm that the appropriate TCP port is available.

Firewalls and Anti-Virus Software

Firewalls and anti-virus software must permit UDP and TCP communications as specified in [Table 5-1](#).

Database Connection

You are responsible for connecting offline workstations to the external database and image storage location. See *MDCStore Database Schema Installation and Update Guide* for details.

Molecular Devices Software

Molecular Devices may release software updates. You are responsible for updating the software to the latest version.

To be notified of software updates, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, search for article number **18817**, and click **Notify Me** in the article.

Image Server

Required Documentation

- *Molecular Devices High-Content Screening Computer and Server Requirements for Offline Analysis* (referred to below as the Computer Specifications document)
- *MDCStore Tools™ Data Management Utility Guide*
- IX Server Storage Calculator (Microsoft Excel file)

These documents are available in the Molecular Devices Knowledge Base at mdc.custhelp.com.

Minimum Computer Specification

- The image server must be large enough to accommodate future image storage needs. Use the IX Server Storage Calculator to estimate the amount of storage space needed over time. To use the Storage Calculator, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, search for article number **20105**, and click **Storage Calculator**.
- Unless you are using the MDC FileServer Admin Software, the image server can use any operating system that supports UNC path sharable network folders that are accessible from Windows-based computers running the Molecular Devices software.
- Network Attached Storage (NAS) devices can be used for image storage.
- See the Computer Specifications document for details.

Windows Permissions

External users must have to read/write/modify permission on the image server. This can be controlled by the MDC FileServer Admin Software through a TCP port or through Windows user permissions.

You are responsible for account management and user access control between the instrument workstation, offline workstation(s), any database servers, image storage locations, and file servers.

Molecular Devices recommends setting up a workgroup (but not a mapped drive, because the UNC path might be different depending on the windows user) and adding the different Windows users to this group.

Firewalls and Anti-Virus Software

Firewalls and anti-virus software must permit UDP and TCP communications as specified in [Table 5-1](#).

Maintenance

It is your responsibility to back up your data regularly.

MDCStore Xchange Service

Required Documentation

- *Molecular Devices High-Content Screening Computer and Server Requirements for Offline Analysis* (referred to below as the Computer Specifications document)
- *MDCStore Xchange Quick Start Guide* (referred to below as the Quick Start Guide)

These documents are available in the Molecular Devices Knowledge Base at mdc.custhelp.com.

Region Control Panel

Set **Format** field on the Region control panel to **English (United States)**.

Windows Permissions

The Windows account must have access to the image storage locations.

There must be a local administrator account for installation. See the Quick Start Guide for details.

Database Connection

You are responsible for connecting the computer to the external database and image storage location. See the Install Guide for details.

Firewalls and Anti-Virus Software

Firewalls and anti-virus software must permit UDP and TCP communications as specified in [Table 5-1](#).



After the instrument is installed, you are responsible for the following maintenance tasks.

Backing Up Data

You are responsible for backing up data from all of computers running Molecular Devices software, including the instrument workstation supplied with the Molecular Devices imaging system.

Monitoring Storage Space

You are responsible for monitoring the space available for storage of data (database and image storage) to confirm that there is sufficient free space.

Integrating the MDCStore Database

If you choose to integrate the MDCStore database into your own corporate database, you are responsible for all database integration.

You can download the MDCStore software development kit, which provides an application programming interface (API) to exchange image locations, data, and metadata with third-party software. For details, log in to the Molecular Devices Knowledge Base at mdc.custhelp.com, search for article number **19644**.



CAUTION! Molecular Devices is not responsible for data corruption, loss, or failure caused by database integration.

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Revision P

