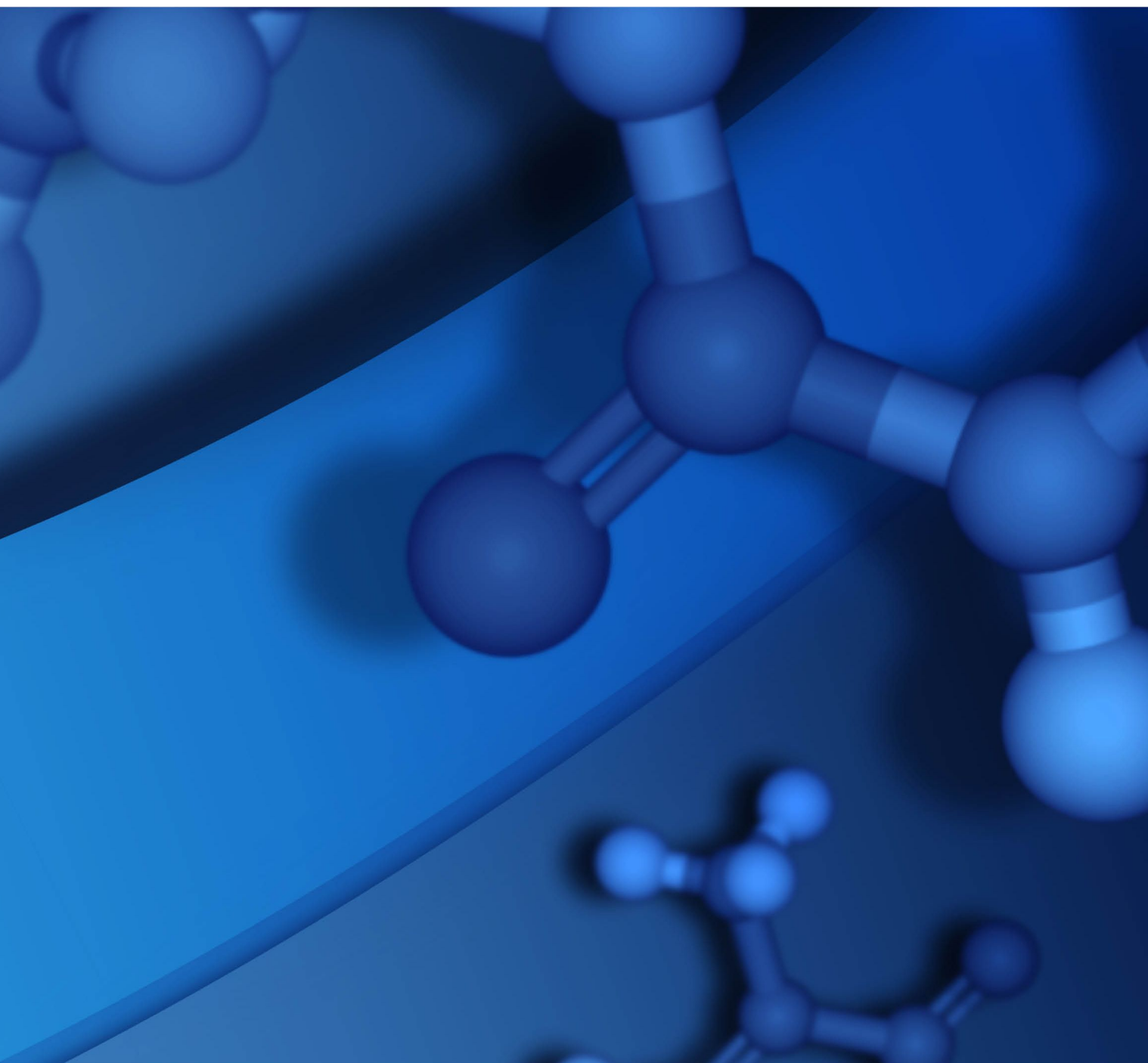


# SYSTEM REQUIREMENTS

BIOVIA DISCOVERY STUDIO 2020



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## About This Document

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This document describes the supported installation environments for BIOVIA Discovery Studio 2020.

**Note:** There are more specific requirements for users who plan to run CHARMM OpenMM GPU in Discovery Studio. See [CHARMM OpenMM or DOMDEC GPU Requirements](#).

## Definitions

The following defines specific terms for BIOVIA Discovery Studio 2020:

- **Supported:** The hardware or software was tested against BIOVIA Discovery Studio, is expected to function as documented, and will be supported by BIOVIA. If issues are found that are specific to these versions of the hardware or software, they will be addressed per the BIOVIA Software support policy.
- **Not Supported:** Any hardware and software not specifically listed in this document is not supported by BIOVIA. These are used at the customer's risk and BIOVIA makes no guarantee regarding the capability of unsupported hardware or software to function with BIOVIA Discovery Studio.
- **Known to Be Incompatible:** Software, or versions of software, that will not function correctly in conjunction with BIOVIA Discovery Studio 2020.

## System Requirements

### Hardware Requirements

Component	Minimum Hardware
Processor	Intel-compatible x86_64 architecture
RAM	<ul style="list-style-type: none"><li>■ 4 GB per core</li><li>■ 16 GB for a single core processor</li></ul> <p><b>Note:</b> Additional memory will increase performance.</p>

**Note:** Protocols and Components with Python dependencies require CPUs with Advanced Vector Extensions (AVX) instructions.

### Disk Space

The following table gives approximate space requirements for Discovery Studio. The databases listed below are optional but provide additional capabilities if they are installed.

Component	Approximate Size
Discovery Studio Client	1 GB
Pipeline Pilot Server with Discovery Studio collections	25 GB
Antibody Redundant Data Set	4.4 GB
BLAST Database	0.5 GB
PharmaDB	5 GB

### Graphics Cards

The table below shows a list of graphic cards that can be used with the Discovery Studio Client. Certified cards are fully tested and supported. The remaining cards are expected to work, but have not been tested.

Graphics Card	Performance	Certified	Stereo Support
ATI FirePro V4900	Mid		
ATI FirePro V5900	Mid		
ATI FirePro V7900	High		
AMD FirePro W5000	Mid		
AMD FirePro W8000	High		✓
AMD FirePro W2100	Basic		✓
AMD FirePro W4100	Mid		✓

Graphics Card	Performance	Certified	Stereo Support
AMD FirePro W5100	Mid		√
AMD FirePro W7100	High		√
AMD Radeon Pro WX4100	Mid		
AMD Radeon Pro WX5100	Mid		
AMD Radeon Pro WX7100	High	√ (Windows)	√
NVIDIA Quadro 600	Basic		
NVIDIA Quadro K620	Basic		
NVIDIA Quadro 2000/K2000	Mid		√ (Windows)
NVIDIA Quadro K2200	Mid	√	
NVIDIA Quadro 4000/K4000	High		√
NVIDIA Quadro K5000	High		√
NVIDIA Quadro 6000	Ultra-high		√
NVIDIA Quadro M4000	Mid		√
NVIDIA Quadro M5000	High	√	√
NVIDIA Quadro M6000	Ultra-high		√
NVIDIA Quadro P5000	Ultra-high	√	√

**Note:** Limited testing has been done on Intel graphics cards on Windows. Some of these cards do not support all features used by the Discovery Studio Client. The Optimize Graphics Settings startup option will detect this and disable those features.

## Drivers

**Note:** Some ATI drivers are known to have problems when Discovery Studio is run as an administrator (root).

Operating System	ATI/AMD V-Series	ATI/AMD W-, WX- and Radeon Pro-Series	NVIDIA Quadro K and M-Series
Windows 10		<a href="#">19.Q3</a>	<a href="#">431.86</a>
RedHat 7	<a href="#">15.201.2401</a>	<a href="#">19.Q3</a> (Red Hat 7.6 only)	<a href="#">430.40</a>
CentOS 7			<a href="#">430.40</a>

## Supported Operating Systems

### Server

Operating System	Versions	Notes
Windows	10	64-bit only. Also, Discovery Studio server is only supported for standalone or single-user installations.
Windows Server	2019	64-bit
Windows Server	2016	64-bit
Windows Server	2012 R2	64-bit
Red Hat Enterprise Linux	7	64-bit
CentOS	7	64-bit

### Client

Operating System	Versions	Notes
Windows	10	64-bit
Red Hat Enterprise Linux	7	64-bit
CentOS	7	64-bit

## Supported Software for the Grid

Software	Version	Comments
PBS	18.2.3	
Slurm	18.08	

## CHARMm OpenMM and DOMDEC GPU Requirements

### Operating Systems

Operating System	Version
Red Hat Enterprise Linux	7
CentOS	7

### Graphics Cards and Drivers

The following combinations of NVIDIA graphics card, driver, and operating system are tested and certified for CHARMm OpenMM and DOMDEC GPU:



Graphics Card	Driver Version	Operating System	Graphics Memory
GeForce GTX 1080 Ti	NVIDIA 384.111	Red Hat 7.4	11 GB
Quadro GP100	NVIDIA 390.129	CentOS 7.5	16 GB
Quadro P5000	NVIDIA 390.129	Red Hat 7.5	16 GB
Quadro K2200	NVIDIA 390.129	Red Hat 7.5	4 GB

**Notes:**

- CHARMm is integrated with OpenMM 7.1.1, which depends on CUDA 8.0.61 and OpenCL 1.0.0 libraries. All of these libraries are included with the Discovery Studio server installation.
- CHARMm DOMDEC supports CUDA 8, but does not support OpenCL.
- Graphics cards not listed above that are compatible with CUDA 8 are expected to work. Graphics cards incompatible with CUDA 8 are not supported.
- The minimum graphics driver version for CUDA 8.0.61 is NVIDIA 375.26. Newer driver versions are expected to work but those not listed in the table above have not been tested.

## BIOVIA Software

### Required

Software	Supported Versions	Notes
Pipeline Pilot Biology Collections third-party tools	2020	BIOVIA Discovery Studio relies on the Pipeline Pilot Sequence Analysis collection, which requires the separate installation of third-party tools that support the Pipeline Pilot Biology Collections. Refer to the <i>Discovery Studio Installation Guide</i> for details about installing them.

### Supported

You can configure the Pipeline Pilot Server you are using with Discovery Studio to work with the following BIOVIA products.

Software	Supported Versions	Notes
BIOVIA Foundation Hub	2020	
BIOVIA Materials Studio Collection for Pipeline Pilot	2020	

## Supported Browsers

Application	Versions	Notes
Microsoft Internet Explorer	11	
Microsoft Edge	Latest	At the time of release this is 44
Google Chrome	Latest	At the time of release this is 77
Mozilla Firefox	Latest ESR	At the time of release this is 69

**IMPORTANT!** In order to view the PDF format documentation included in the Discovery Studio online help you must have a PDF viewer installed on your machine. For Microsoft Edge and Internet Explorer 11 you must have Adobe Reader installed, visit <http://get.adobe.com/reader/>.

## Additional Requirements

### BLAST

The *BLAST Search* (Discovery Studio server) and *PSI-BLAST Search* protocols rely on a separately installed BLAST database. For more details regarding the extraction and installation of the BLAST database, see "Installing the BLAST database" in the *Discovery Studio Installation Guide*.

### GNOME Desktop (Linux)

The Discovery Studio Client is optimized for the GNOME Desktop. You should install and configure this software, which is available on your Linux distribution media.

**Note:** KDE Desktop is also supported.

## System Libraries

Certain system libraries may be required for Discovery Studio on Red Hat and CentOS operating systems. The Discovery Studio distribution includes `check_system.sh`, which you can use to check which libraries may be required for your system. Note that the libraries must be the 64-bit version.

- alsa-lib
- audit-libs
- bc
- bzip2-libs
- cairo
- compat-libstdc++-33
- compat-libtiff3
- e2fsprogs-libs
- expat
- fontconfig
- freetype
- keyutils-libs
- krb5-libs
- libdrm
- libgcc
- libICE
- libjpeg-turbo
- libpcap
- libselenium
- libsepol
- libSM
- libstdc++
- libXdmcp
- llibXext
- libXfixes
- libXi
- libXinerama
- libXmu
- libXpm
- libXrender
- libXt
- libXtst
- libXxf86vm

- gd
- glib2
- glibc
- libX11
- libXau
- libXdamage
- pam
- tcsh
- zlib

## Dassault Systèmes Support Resources

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From this portal, you can:

- Call or email Dassault Systèmes Customer Support
- Submit a request
- Download installers
- Access hardware and software requirements
- Access the Knowledge Base
- Access Communities and Twitter feeds