

UNICORN 7.6

Installation Checklist

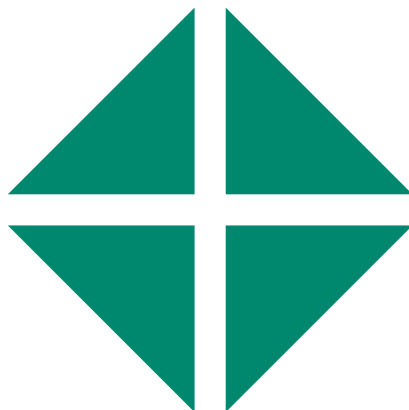


Table of Contents

1 Introduction 3

2 Early consideration checklist 4

3 Preinstallation checklist 5

4 Post-installation checklist 9

5 Computer hardware and software recommendations 13

1 Introduction

Purpose of this document

The purpose of this document is to list computer and network requirements that need to be fulfilled to properly install, run, and maintain the UNICORN software.

The contents of this document can be used as information to an IT department regarding the setup requirements needed to install and run UNICORN.

The document is divided into three parts:

- Early consideration checklist
- Pre-installation checklist
- Post-installation checklist

How to use this document

- Add your contact information to the following table.
- Complete the applicable checklists and send this document to a Cytiva representative.

Date	
Company name	
Name of company representative	
Email of company representative	
Phone number of company representative	

Applicable versions

This document is valid for UNICORN 7.6 and later releases.

2 Early consideration checklist

UNICORN database

By default a Microsoft® SQL Server® 2017 database is installed. However it is possible to install and run the UNICORN database in an existing SQL instance.

License server

A license server to handle concurrent licenses needs to be installed. This can be installed on a separate computer. An existing license server can also be used.

Checklist

Item	Answer
How many instruments are there?	
Will there be a separate database server?	
Will an existing SQL Server be used?	
Will there be one or several separate databases?	
Will the communication with the Active Directory® be encrypted? For more information see <i>UNICORN Security Hardening</i> .	
Will the database communication be encrypted, and if so, how? For more information see <i>UNICORN Security Hardening</i> .	
If there is more than one instrument, how is the database set up?	
Will there be a separate e-license server?	
Will an existing e-license server be used?	
Are the computers supplied by Cytiva?	
How many UNICORN installations on existing computers are there?	
Is the IT department or database administrator notified on the need of firewall, antivirus, domain, and backup configurations?	
Is the software available for installation?	

3 Preinstallation checklist

Checklist for non-Cytiva supplied computer

Item	Check	Comment
Make sure that the computer meets the requirements listed in Chapter 5 Computer hardware and software recommendations , on page 13.		
Set metrics on the network interface cards (NIC) of the instrument controlling computer. Note: <i>Set the metric of the NIC controlling the instrument to 25. Set the metric of the NIC used for network communication to 20.</i>		
Disable computer sleep mode for all Windows® users.		
Disable power save on all LAN network interface cards for all Windows users.		
Disable power save for each hard disk on the computer for all Windows users.		
Disable automatic restart of computer after Windows system failure for all Windows users.		
Set Windows paging file size to System managed .		
Turn off automatic updating of Windows and any automatic updates from the IT department. Note: <i>Installation of updates during system runs can lead to unexpected UNICORN behavior.</i> Tip: <i>Schedule updates at times when there are no runs in progress.</i>		

Non-Cytiva supplied SQL server

Item	Check	Comment
Refer to a Cytiva representative for information on how to set up the server.		

Checklist for Cytiva supplied computer

Item (set for all Windows users)	Check	Comment
Disable computer sleep mode.		
Disable power save on all LAN network interface cards.		
Disable power save for each hard disk on the computer.		
Turn off automatic updating of Windows and any automatic updates from the IT department. Note: <i>Installation of updates during system runs can lead to unexpected UNICORN behavior.</i> Tip: <i>Schedule updates at times when there are no runs in progress.</i>		

Windows domain

Item	Answer
Will any of the computers used for UNICORN be added to the domain before installation?	

UNICORN preinstallation checklist

Item	Answer
What is the database server name (including instance name e.g., MyServer/UNICORN)?	
Is the database installed by IT, or installed from the UNICORN DVD?	
What is the name of the e-licensing server?	
Which types of licenses will be used?	
What are the access codes of any new licenses?	
Will Windows Authentication be used to log on to UNICORN?	
What is the number of users in the UNICORN network?	
What is the number of systems in the UNICORN network?	
What is the estimated number of systems in the UNICORN network in three years?	

IP addressing

Item (set for all Windows users)	Check	Comment
Check that the IP address ranges and subnet masks for existing network do not collide with the designated instrument configuration LAN.		

Note: If two or more network adapters are in use, make sure that the configured IP address is not within the subnet of the other adapters. Recommended IP address to use is either 10.0.0.X or 172.16.0.X where X is 2 to 254.

System preinstallation checklist

Answer the questions in the following table only if you are installing a system.

What is the name of the system?	What is the type of system?	What is the serial number?	Which Instrument configuration is used?

3 Preinstallation checklist

What is the name of the system?	What is the type of system?	What is the serial number?	Which Instrument configuration is used?

4 Post-installation checklist

Default installation folders

In this document, "Program Files Path" is used to represent the default path for the program files installation folder, depending on the Windows version. For example, the default path to the program files folder where UNICORN is installed in a 64-bit installation of Windows 10 is `C:\Program Files (x86)`.

For example, if the path is written as below you have to replace Program Files Path with the correct path for your version of Windows:

Program Files Path \Cytiva\UNICORN\.

Firewall exceptions

During the UNICORN installation, exceptions for all needed ports and programs are set up in the Windows firewall. If UNICORN is installed in a network with another firewall, exceptions for needed ports and programs must be set up manually. Whether to use program exceptions or port exceptions should be decided by the local IT department.

Program exceptions

Note: *The name of the installation folder will be the same as the installed UNICORN version. This may differ from the path listed in the table.*

Program	Comment
gehealth.exe	Only available when the License server has been installed and is usually found in Program Files Path \Cytiva\eLicense server
Imgrd.exe	Only available when the License server has been installed and is usually found in Program Files Path \Cytiva\eLicense server
OPCEnum.exe	Usually found in C:\WINDOWS\system32
p950_drv.exe	Usually found in Program Files Path \Cytiva\UNICORN \UNICORN 7.6\bin\Middleware\CU950
SystemInstallation.exe	Usually found in Program Files Path \Cytiva\UNICORN \UNICORN 7.6\bin
Sqlservr.exe	Only available in a Database installation and is usually found in Program Files Path \Microsoft SQL Server \MSSQL14.UNICORN\MSSQL\Bin ¹
UNICORNClient.exe	Usually found in Program Files Path \Cytiva\UNICORN \UNICORN 7.6\bin
UNICORN InstrumentServer.exe	Usually found in Program Files Path \Cytiva\UNICORN \UNICORN 7.6\bin
UNICORN Support Service.exe	Usually found in Program Files Path \Cytiva\UNICORN \UNICORN 7.6\bin
UNICORN User Server.exe	Usually found in Program Files Path \Cytiva\UNICORN \UNICORN 7.6\bin
RemoteDeploymentService.exe	Usually found in Program Files Path \Cytiva\Remote Deployment Service\bin

¹ The path is dependent on SQL Server version and database instance name. E.g., MSSQL14 . UNICORN is the folder name for the SQL Server and the instance name UNICORN.

Port exceptions

TCP port	UDP port	Comment
135		Firewall exception is needed for DCOM communication.
1433		For communication with SQL Server on the SQL Server computer.
	1434	For use of SQL Browser service in order to locate database instances.
9920		For communication between computers where different parts of UNICORN are deployed.
27000 to 27009		For communication with the License Server on the License Server computer.
40500		Used internally by UNICORN client.
40501 to 40502		For UNICORN client to UNICORN Instrument Server communications.
40503		For NextCU to VID communication. Note: <i>Not needed when RTUext is used.</i>
	40504 to 40510	For communication with instrument. Note: <i>Not needed when RTUext is used.</i>
	50000 to 50003	For communication with instrument. Note: <i>Not needed when RTUext is used.</i>
40511	40511	For RTU/RDS ¹ communication.
40512		For RTU communication.
443		For UNICORN User Server communication.
40513		For UNICORN Instrument Server communication.
40514		For UNICORN Instrument Server communication.
40516		For UNICORN User Server communication.

¹ Remote Deployment Service

CU-950 and CU-960 TCP ports

The TCP ports used by UNICORN for the CU-950 and the CU-960 (CU) with the listed numbers are shown in the following table. Only one CU per instrument server computer is supported. By default the CU is set to Control Unit number (CU #) 1 and uses the ports listed in the first column. Both inbound and outbound data communication must be allowed for the used ports.

Channel	CU #1	CU #2	CU #3	CU #4
Software & Data storage	60033	60133	60233	60333
Download & Manual	60032	60132	60232	60332
Trend & Event	60031	60131	60231	60331
Info	60030	60130	60230	60330

Additional network checks

Item	Check	Comment
Set up antivirus software to avoid scanning in UNICORN folders. Refer to UNICORN Administration and Technical Manual		
Set internet time synchronization to a known server. Note: <i>If on a domain, the domain controller handles time synchronization.</i>		
Set group policies (check with local IT department) in line with UNICORN access group settings. E.g., folder write permission is needed for database backup.		

Database backup management checks

Item	Check	Comment
Set up a daily routine to move UNICORN database backup files to a safe place.		
Make sure there is enough disk space to handle daily backups.		

5 Computer hardware and software recommendations

General computer specifications

For information on computer specifications, see <http://www.gelifesciences.com/UNICORNPCspecifications>.

For information about compatibility between UNICORN versions, the supported operating systems, database versions, and instrument configuration, see the UNICORN compatibility matrix at <http://www.gelifesciences.com/UNICORNcompatibility>.

The following applies:

- A screen resolution of 1280x1024 or higher is recommended. Parts of the UNICORN user interface can not be displayed properly using a lower resolution.
- Changing the default font and changing the font size from 100% in Windows can cause problems in the UNICORN user interface.
- Windows power save features must be turned off to avoid conflicts with system operations.
- UNICORN is not compatible with the Windows feature High DPI Awareness, which allows the graphic user interface to be scaled. The interface scale must remain at 100% to avoid issues with clipping and misaligning of parts of the UNICORN user interface. Normally, the scale is set at 100% by default.



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