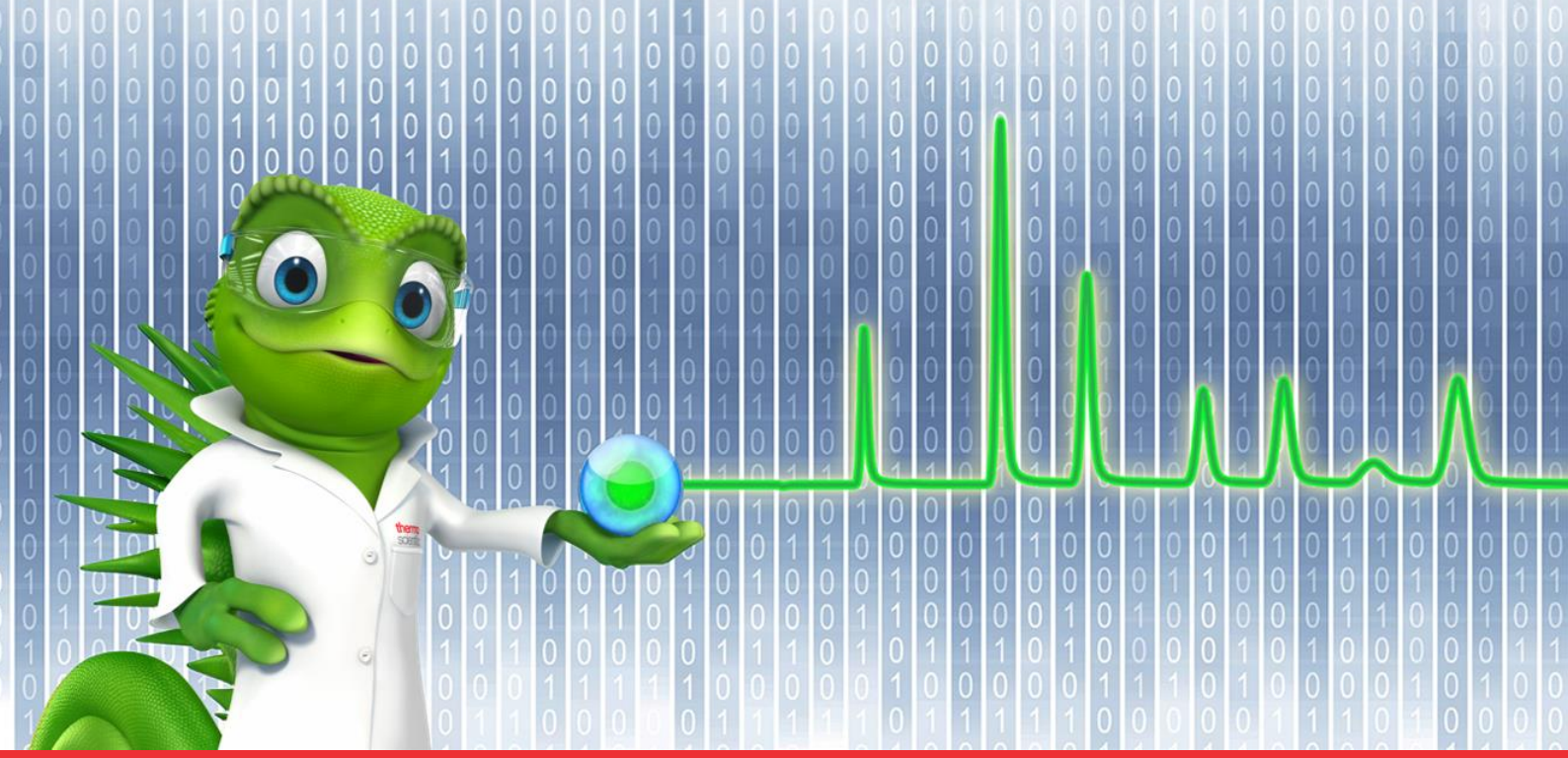

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Supported Operating Systems

Chromeleon 7
Chromatography Data System

Software Version 7.2.10 MUf • June 2022

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1 Introduction

This document lists the operating systems supported for use with Chromeleon 7.2.10 MUf and the role within Chromeleon for which each operating system can be used.

Note: Changes to this document since the previous Maintenance Release of Chromeleon 7.2.10 are highlighted in yellow.

2 Support Details

2.1 General

Chromeleon 7.2.10 MUf is a maintenance release providing “Extended Support” for Chromeleon 7.2.10. This extended support provides resolution to defects introduced into Chromeleon 7.2.10 and subsequent Maintenance Update (MU) releases.

2.1.1 Operating System Support

In general Extended Support releases (ES) are supported on the version(s) of Windows Desktop, Windows Server, and Citrix which were available at the time of the release of Chromeleon 7.2.10, but may also add support for newer operating systems when required by customers using this channel.

2.1.2 Database Support

In general releases on the Extended Support channel are supported for use with the versions of Microsoft SQL and Oracle databases which were available at the time of the release of Chromeleon 7.2.10. Support for newer database platforms may be introduced if requested by customers using this channel or if this becomes necessary due to OEM de-support.

2.1.3 Operating System and Database Releases after Chromeleon Release

After a Chromeleon Extended Support release, we continue to monitor new Windows (including Windows KBs) and Database releases. If new versions of Windows, SQL or Oracle are released between Chromeleon Extended Support Maintenance Releases, then we will normally aim to test Chromeleon compatibility with those versions as part of the testing of the subsequent maintenance release on the extended support channel.

2.2 Supported Operating Systems per Role

The following table lists, for each role in Chromeleon, the operating systems supported.

For Enterprise Chromeleon systems, any supported Client operating system(s) can be used in combination with any supported Server operating system(s).

Role	Supported Operating Systems	
Standalone Workstation	Microsoft Windows 11 Pro and Enterprise (64-bit)[5] Microsoft Windows 10 Pro and Enterprise (64-bit)[5] Microsoft Windows 8.1 Professional (64-bit)	
Remote Client / Data Processing Client	Microsoft Windows 11 Pro and Enterprise (64-bit)[5] Microsoft Windows 10 Pro and Enterprise (64-bit)[5] Microsoft Windows 8.1 Professional (64-bit)	
Thin Client	Microsoft Windows Server 2022 with Terminal Services activated [1] Microsoft Windows Server 2019 with Terminal Services activated [1] Microsoft Windows Server 2016 with Terminal Services activated [1] Microsoft Windows Server 2016 with Terminal Services activated running Citrix XenApp Server 7.15 [1] Microsoft Windows Server 2012 R2 (64-bit) with Terminal Services activated [1][12] Microsoft Windows Server 2012 R2 (64-bit) with Terminal Services activated running Citrix XenApp Server 7.6 [1] [12]	
IPC / Enterprise Workstation	Microsoft Windows 11 Pro and Enterprise (64-bit)[5] Microsoft Windows 10 Pro and Enterprise (64-bit) [5] Microsoft Windows 8.1 Professional (64-bit)	
247 Instrument Controller	Microsoft Windows 10 LTSC 1809 firmware version TDS5.50 (TDS5) [5]	
Chromeleon Domain Controller	Microsoft Windows Server 2022 [1] Microsoft Windows Server 2019 [1] Microsoft Windows Server 2016 [1] Microsoft Windows Server 2012 R2 (64-bit) [1] [12]	
Data Vault Server (Master or Slave)	Microsoft Windows Server 2022 [1] Microsoft Windows Server 2019 [1] Microsoft Windows Server 2016 [1] Microsoft Windows Server 2012 R2 (64-bit) [1] [12]	
Database Server[2]	Oracle 12c (R1) Oracle 18c[6] Oracle 19c[6]	Microsoft SQL Server 2014 SP3 Microsoft SQL Server 2016 SP2 Microsoft SQL Server 2017 Microsoft SQL Server 2019
Local database	Oracle not supported for local data vault	Microsoft SQL Server 2014 Express SP3 Microsoft SQL Server 2016 Express[7] Microsoft SQL Server 2017 Express[7] Microsoft SQL Server 2019 Express[7]

Raw Data Server	Microsoft Windows Server 2022 [1] Microsoft Windows Server 2019 [1] Microsoft Windows Server 2016 [1] Microsoft Windows Server 2012 R2 (64-bit) [1] [12]
.Net Framework	Microsoft .NET Framework 3.5 SP1[10] Microsoft .NET Framework 4.6.2[10] Microsoft .NET Framework 4.7[10]
Virtualisation	Virtualisation is supported for the following roles [3]: • Chromeleon Domain Controller • Chromeleon Data Vault Server (load-balanced) • Database Server (Oracle and SQL) • Chromeleon Raw Data Server • Thin Client • Remote Client / Data Processing Client
Cloud deployment	Cloud deployment is supported for the the following roles [9]: • Chromeleon Domain Controller • Chromeleon Data Vault Server (load-balanced) • Database Server (Oracle and SQL) • Chromeleon Raw Data Server • Thin Client

Notes:

[1] Windows Server 2022, 2019, 2016 and 2012 are supported on both the Standard and Datacenter editions.

[2] If the database is installed on the same machine as the Chromeleon Domain Controller or the Chromeleon Data Vault Server (neither of these configurations is recommended as they cause a potential single-point-of-failure in the Chromeleon system), the database version must be compatible with the Server operating system. Refer to the documentation for your chosen database for more information

[3] Chromeleon has been tested by Thermo Fisher Scientific on a range of virtualisation hypervisors. Our findings are that, provided the hypervisor is capable of hosting a virtual machine running one of the Windows versions listed in the table above, it is capable of being used in a Chromeleon system in any of the roles listed in the Virtualisation section of the table above. Virtualization is not supported for Workstation or IPC roles as a physical connection to an instrument is required and reliable 'virtualised' instrument connection mechanisms are not fully compatible with real-time operations and usage of multiple communication ports.

[4] With Chromeleon 7, you can only create standard data vaults locally on the hard drive of the PC that runs Chromeleon 7. Standard data vaults are shared in a Chromeleon domain, but the connectivity, performance, and capacity are limited by the SQL Server version

[5] See section 2.2 for further information regarding Windows 10 support

[6] Installation of the Oracle 18c and 19c clients require special instructions. These can be found in the document #460 of the Chromeleon Enterprise documents

[7] If no version of SQL Server is currently installed, the Chromeleon 7.2.10 MUa Installation kit will install SQL Server Express 2014. In order to use a later version of SQL Server Express with Chromeleon 7.2.10 MUa (and subsequent MUs), this should be installed in advance of running the Chromeleon 7.2.10 MUa installation kit.

[8] From October 2020, Microsoft will no longer provide mainstream support for Windows Embedded Standard 7. If you want to continue using WES7 firmware with your Thermo Scientific 247 Instrument Controller, you will need to purchase Extended Support for WES7. The support statements for Windows Embedded Standard 7 in this document is only valid if you have Extended Support for Windows Embedded Standard 7

[9] Chromeleon has been tested by Thermo Fisher Scientific on Amazon Web Services (AWS) Elastic Cloud Compute (EC2) instances of Windows 2016 Server. Any other cloud platform which supports the creation of a

Windows Server VM running one of the Windows versions listed in the table above is supported for use in a Chromeleon system in any of the roles listed in the Cloud deployment section above. Cloud deployment is not supported for Workstation or IPC roles as a physical connection to an instrument is required and reliable 'virtualised' instrument control connection mechanisms are not fully compatible with real-time operations and usage of multiple connection ports.

[10] The .net framework versions listed in this table are the *minimum* versions required for use with Chromeleon. Each version of Microsoft Windows comes with a version of .net framework already installed. Newer version of Windows will have version(s) of .net which are later than the versions listed in the table. In order to use Chromeleon, you must also ensure that the *minimum* versions of .net listed in the table are installed in addition to any pre-installed versions.

[12] Mainstream Microsoft support for Windows 2012 Server R2 ended in 2018. Extended support runs until October 2023. Support in Chromeleon therefore only applies to customers who have purchased a Windows 2012 Server R2 extended support from Microsoft.

2.3 Windows 10 Service Periods

With the release of Windows 10, Microsoft's support model was changed. This has an impact on the way Thermo Fisher Scientific is able to support Chromeleon on Windows 10.

Windows 10 Feature Updates are now released twice a year and each feature release is supported by Microsoft for approximately 30 months.

Microsoft will continue to support at least one Windows 10 Semi-Annual Channel (Professional / Enterprise) until October 14, 2025.

At the time of release of Chromeleon 7.2.10, the versions of Windows 10 which are under support by Microsoft and are therefore supported for Chromeleon 7.2.10 are displayed in the table below:

Windows 10 Version	End of service for Professional edition	End of service for Enterprise edition	End of service for Long-term Servicing Channel edition
Version 1703	Windows 10 Pro Version 1703 is no longer supported	Windows 10 Enterprise 1703 is no longer supported	n/a
Version 1709	Windows 10 Pro Version 1709 is no longer supported	Windows 10 Enterprise 1709 is no longer supported	n/a
Version 1803	Windows 10 Pro Version 1803 is no longer supported	Windows 10 Enterprise 1803 is no longer supported	n/a
Version 1809	Windows 10 Pro Version 1809 is no longer supported	Windows 10 Enterprise 1809 is no longer supported	Aug 2028[1]
Version 1903	Windows 10 Pro Version 1903 is no longer supported	Windows 10 Enterprise 1903 is no longer supported	n/a
Version 1909	Windows 10 Pro Version 1909 is no longer supported	May 2022	n/a
Version 2004	Windows 10 Pro Version 2004 is no longer supported	Dec 2022	n/a
Version 20H2	May 2022	May 2023	n/a
Version 21H1	Dec 2022	Dec 2024	n/a

Notes:

[1] LTSC editions of Windows 10 are released less often than other editions, but are supported for a longer period.

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Thermo Fisher Scientific Inc.
168 Third Avenue
Waltham, MA 02451
USA

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