



Release Notes

Chromeleon 7 Chromatography Data System

Software Version 7.2.8 • July 2018

Document Revision 2.0

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Release History

Revision 1 released April 2018; initial product release

Revision 2 released July 2018; new section 3.4.9 was added, sections 3.1.6 and 3.6.6 were modified

Software version: Chromeleon 7.2.8

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1 Introduction

The Thermo Scientific™ Chromeleon™ 7 Chromatography Data System (CDS) is a new-generation chromatography data system that provides the fastest path from samples to results. Building upon market-leading innovations of prior Chromeleon software releases – such as dynamic interactive data displays, an integrated database for rapid data retrieval, and spreadsheet-based reporting – Chromeleon 7 features a modern user interface, comprehensive new tools for peak detection, and an innovative workflow management framework, all of which speed up learning, simplify operation, and deliver results with greater efficiency than any other chromatography data system.

This new version, Chromeleon 7.2.8 CDS, provides updated and new instrument control for instruments from Thermo Fisher Scientific. Improvements and enhancements have been made in a number of areas related to ease of use, data processing and visualization. In addition, this release introduces support for the Thermo Scientific Vanquish Duo. Please see below for more details on these and other enhancements present in this release.

The software is developed using modern software development tools and technologies that improve performance, sustainability and extendibility.

Backward compatibility with Chromeleon 6 is maintained to the greatest practicable extent, to provide an easy migration path.

2 Other Documentation

Chromeleon is provided with many other documents that will help you to learn more about the software. These documents can also be found in electronic form on the installation disk in the Documents folder.

Please refer to the Installation Guide for information regarding:

- System Requirements
- Supported Operating Systems and Databases
- Required Third-Party Software
- Compatibility with Previous Versions
- Installing and configuring the Chromeleon software

Also available are the Enterprise Documents that were released for Chromeleon 7.2 SR5, which describe the process for installation of enterprise systems based on Chromeleon 7.2 SR5. These documents are also applicable for Chromeleon 7.2.8.

3 What's New in Chromeleon 7.2.8

Chromeleon 7.2.8 implements a number of new features, including support for the new Vanquish Duo system providing support for dual LC, tandem LC and inverse gradient workflows. Also included are several updated drivers and core Chromeleon enhancements. This document will only give a short overview of all features without going into much detail. For more details, refer to the Online Help.

3.1 New and Updated Thermo Scientific Instrument Drivers

This chapter lists new and updated Thermo Scientific™ drivers added to Chromeleon 7.2.8. For details on supported options, required licenses, installation, and control, refer to the Online Help or the List of Supported Instruments document found on the Chromeleon 7.2.8 DVD.

3.1.1 Vanquish Diode Array Detector FG - New Driver [SWFR-2240]

This release includes support for the new Thermo Scientific Vanquish Diode Array Detector FG (VF-D11-A). This detector is compatible with all other Vanquish modules.

3.1.2 Vanquish Dual Gradient Pump Flex – New Driver [SWFR-1987]

This release includes support for the new Thermo Scientific Vanquish Dual Gradient Pump Flex (VF-P32-A-01). This pump is compatible with all other Vanquish modules.

3.1.3 Vanquish Dual Autosampler (Horizon and Flex) – New Driver [SWFR-1995]

This release includes support for the new Thermo Scientific Vanquish Dual Autosampler Horizon (1500 bar limit, VH-A40-A-02) and Vanquish Dual Autosampler Flex (1034 bar limit, VF-A40-A-02). These autosamplers are compatible with all other Vanquish modules. Note that for the Vanquish Dual Autosampler the charger is not yet supported.

3.1.4 Vanquish Diode Array Detectors - Updated Driver [CM7-19402]

The driver for the Vanquish Diode Array Detectors (VH-D10-A, VF-D11-A) has been updated to include a wellness device in line with drivers for other Vanquish modules.

3.1.5 ISQ 7000 / TSQ 9000 GCMS - New Driver [SWFR-2542]

This release includes drivers to support the new Thermo Scientific ISQ 7000 Single Quadrupole GC Mass Spectrometer and Thermo Scientific TSQ 9000 Triple Quadrupole GC Mass Spectrometer. These new drivers also control the ISQ Classic/QD/LT and TSQ 8000 Classic/ Duo and TSQ 8000 Evo.

3.1.6 ISQ EC LC/IC MS - Updated Driver [SWFR-3014, SWFR-3015, SWFR-3016, SWFR-3018, SWFR-3153, CM-6364]

This release includes an updated driver for the Thermo Scientific ISQ EC Single Quadrupole LC/IC Mass Spectrometer.

- It is now possible to acquire MS data in profile mode

- The instrument method editor now includes an option to automatically create temporary channels which may then be used as input for fraction collection.
- Support for Smart Startup, Smart Standby and Smart Shutdown functionality is now available.
- The instrument method script now supports the assignment of injection and sequence custom variables for method settings.
- It is now possible to exchange information via the Windows clipboard between the instrument method scan table and the processing method component table
- When working in the Real time Scan Window of the ISQ EC, the user can copy the scan settings from that window to the Windows Clipboard and then paste the values into the ISQ EC MS method.

3.1.7 TRACE 1300 GC – Updated Driver [SWFR-2758]

With this release a retention time alignment tool has been included on the inlet tab of the Thermo Scientific TRACE 1300 GC instrument method. This tool compensates for changing column conditions by adjusting the flow or pressure of the method to maintain the same retention time for components.

3.2 New and Updated Third Party Instrument Drivers

This chapter lists new and updated third party instrument drivers added to Chromeleon 7.2.8. For details on supported options, required licenses, installation, and control, refer to the Online Help or the List of Supported Instruments document found on the Chromeleon 7.2.8 DVD.

3.2.1 Agilent 6890 GC – Updated Driver [SWFR-2984, CM-204]

With this release, timed events for the valves are now entered in a table on a dedicated method tab, and are sent to the instrument at the start of the run. This results in better accuracy of timed events as compared to defining valve events in the method script.

3.2.2 Agilent 6850 GC – Updated Driver [SWFR-769, CM-296, CM-4393]

This release allows the Agilent 7693 autosampler to be used with an Agilent 6850 GC, and includes the same valve events improvements as the Agilent 6890 driver.

3.2.3 Agilent LC – Updated Driver [CM-8569, CM7-25390]

This release includes an updated driver, provided by Agilent Technologies, for control of Agilent LC instruments. This update contains a fix for issue CM7-25390. More details are available in the Resolved Issues section, and in the release notes document provided in the \packages\Agilent Chromeleon Drivers\Documentation folder on the Chromeleon 7.2.8 DVD.

3.2.4 Waters Driver Pack 2017 R2 – New Version [SWFR-2749, CM-6901, CM-6921]

A new version of the Waters Driver Pack is introduced with this version of Chromeleon CDS.

Please refer to the document DP2017 R2 installation and configuration guide 715005543rA.pdf in the \Packages\Waters Driver Pack\Driver Pack folder on the Chromeleon 7.2.8 DVD for full installation instructions.

Note: It is necessary to have Windows update KB2999226 installed before attempting to install the Driver Pack.

3.3 Vanquish Duo Features

3.3.1 Dual LC Support [SWFR-2860]

This release includes support for a two pump setup which includes a dual autosampler. This allows running two chromatographic applications at the same time. If only one column compartment is used, the system ensures that both applications run at the same temperature.

3.3.2 Inverse Gradient [SWFR-2693]

This release includes support for the inverse gradient workflow for a Vanquish Duo system with a Dual Gradient Pump (DGP), two HPG or two LPG pumps. A wizard supports the user in setting up the gradient and inverse gradient and provides an inverse gradient offset based on the system fluidics.

3.3.3 Tandem LC/LC-MS [SWFR-1150]

This release includes support for the Tandem LC/LC-MS workflow, where one chromatographic application is run alternately on two columns. While one column is used for the analytical application, the other is re-equilibrated. A wizard supports the user in setting up the analytical and reconditioning part of the gradient and suggests a Minimum Purge Time based on the system fluidics.

3.3.4 Fluidic Connections [SWFR-1274]

The Vanquish Duo system allows for more complex fluidic setups that may involve multiple flows, valves, columns, and devices. Chromeleon 7.2.8 allows a representation of these more complex fluidic setups.

A wizard supports the user in describing the fluidic configuration of the system. The fluidic framework allows drivers to query the flow between components, considering valve positions and pump flows. The wizard allows the user to select a capillary kit for a specific workflow from those capillary kits compatible with the current hardware configuration. Alternatively, the user can import a custom fluidic description from file.

The fluidic configuration describes the fluidics of the system including the capillary volume, flow cell volume and pre-heater volume. For the inverse gradient workflow, the system in addition reads out the column volume and/or column dimensions from the column tag and calculates the effective column volume from the column dimensions. Alternatively, the user can enter the column dimensions or effective column volume manually.

3.4 Chromeleon Client Enhancements

3.4.1 New Cobra Detection Parameter to define a straight baseline between two data points in the chromatogram [SWFR-3089]

The Cobra detection algorithm version associated with Chromeleon 7.2.8 offers a new detection parameter called 'Fixed Baseline'. This parameter allows to force a straight baseline between two data points in the chromatogram. A pair of two detection parameters 'Fixed Baseline = Start' and 'Fixed Baseline = End' defines such a straight baseline via their corresponding retention time values. The new detection parameter (pair) can be entered in various ways:

- Processing Method Editor: the detection table offers the new parameter in the Cobra detection parameter dialog.
- Chromatogram View: drawing a mouse rectangle with the right mouse button offers a dedicated 'Set Fixed Baseline' entry in the corresponding context menu. The rectangle start/end time defines the retention times for the Fixed Baseline detection parameter pair.
- Chromatogram View: the Insert button in the group 'Detection Parameter' of the Processing ribbon offers 'Fixed Baseline' as well. After selecting this option you can set the fixed baseline start and end point via a dedicated mouse tool interactively.

All peaks which are detected automatically between fixed baseline start and end or which are inserted manually later are evaluated in respect to this straight baseline.

Note: For processing methods created or updated with a Chromeleon version prior to 7.2.8 the new detection parameter is only available and offered in the UI if the Cobra detection algorithm version is update to the latest version.

3.4.2 Simplified overlaying of Chromatograms when comparing injection query results in the Chromatography Studio [SWFR-1616]

When running an injection query and getting hits from different sequences with different channels the selection of chromatograms in a corresponding Chromatography Studio session has been improved. In Chromeleon versions prior to 7.2.8 the channel which has been selected in the navigation area of the Chromatography Studio is used for all injections of the query. This created a "Channel is not available" message in the chromatogram plot area if the selected injection was from a sequence where this channel has not been acquired. Now with version 7.2.8 the default channel of the corresponding sequence is used in this case. That way you can easily overlay and compare two chromatograms from two different sequences with different channels.

3.4.3 Pinning/Unpinning Chromatograms in the Chromatography Studio [SWFR-1616 related]

The chromatogram plot in the Data Processing Category of the Chromatography Studio is extended to allow the pinning of single chromatograms. In Chromeleon versions prior to 7.2.8 one could pin injections and channels only separately. Yet if an injection has been pinned a different channel selection in the navigation area did select a different chromatogram (with the newly selected channel). If a channel has been pinned all corresponding chromatogram of all selected injections were overlaid in the chromatogram plot. With version 7.2.8 the chromatogram plot offers to pin single chromatograms, i.e. the combination of injection and channel. Selecting a different channel or injection afterwards does not remove or change this chromatogram. The pinned chromatograms are kept in the chromatogram plot window and overlaid with other selected chromatograms until they are explicitly unpinned. Both the pin and unpin operation can be only executed via the context menu in the title bar of the chromatogram plot area. Pinned chromatograms are marked with a red pin icon () on the left side of the title bar.

3.4.4 Enhancements to Tentatively Identified Peaks Pane [SWFR-2291, CM-76, CM-77, CM-79]

This release enhances the Tentatively Identified Peaks pane to:

- Generate peak results for any acquisition channel (not just the TIC)
- Display the compound CAS number (when available from a library)
- Allow entry of a compound CAS number (when available from a library)
- Transfer a tentatively identified peak to the component table of the method

3.4.5 Component Table Retention Time Adjustment [SWFR-1585, CM-71]

This release adds the ability to adjust the expected retention times of one or multiple components in the processing method by a fixed amount or fixed percentage.

3.4.6 Using a Syringe Standard to Compute ISTD Recovery [SWFR-1162, CM-3979]

This release supports the ability to assign an internal standard to another internal standard as a 'Syringe Standard' in order to compute the percent recovery of the internal standard. The implementation uses a special component custom variable named "CM7_Syringe_Standard" to make the syringe standard assignment.

3.4.7 Summing Response on Quantitation and Confirming Ions for Calibration [SWFR-1457, CM-3999]

When performing calibration related calculations it is now possible to add the results (e.g. area) of the confirming ion traces to that of the quantitation ion trace.

3.4.8 Plot Component Traces of an Associated ISTD [SWFR-3189, CM-4009]

The MS Components pane now includes an option to plot the quantitation and confirming ion plots for the ISTD of a component as well as the quantitation and confirming ion plots of the component itself. This is useful in applications that use isotope dilution (such as dioxin analysis), where it is important to be able to visually compare the RT alignment.

3.4.9 Method translation for UltiMate 3000 instrument methods to the Vanquish platform [SWFR-990]

The instrument method translation workflow facilitates compatibility of an instrument method if the configuration of the currently-assigned instrument is changed or if the instrument method is assigned to a different instrument. Method translation is supported for most of the Thermo Scientific UltiMate 3000 and Vanquish series instruments. Details of the supported translations are available in the Online Help.

3.5 Chromeleon Client Enhancements for the ICS-6000

3.5.1 Progress bar to indicate tag read/write percent complete [SWFR-2394, CM-7409]

A progress bar has been added to the Consumables Inventory user interface to better indicate how much time is left for an ongoing tag read/write.

3.5.2 Tag read/write status [CM-8332, CM-8874, CM-11087]

The Consumables Inventory user interface has been enhanced with two new table columns. The first, titled 'Last Write', shows the time since the tag information became outdated. The second, 'Status', indicates a read, write or read/write error.

In addition, a modified audit trail has been added to the interface, which is filtered to show only errors and warnings.

3.5.3 Improved audit trail read/write error messages [CM-8749]

Tag read/write error messages reported in the audit trail for ICS-6000 instruments equipped with the CDM module have been revised to show the product part and serial numbers to help make identification of the effected consumable easier.

3.5.4 DRS 600 Consumables Installation Guide [CM-10326]

A DRS 600 Installation Guide has been added to the Consumables Inventory user interface. This guide will help users better understand the difference between the new DRS 600 and other suppressor offerings and instructs on how to install it on an IC system.

3.5.5 Improvements to ICS-6000 control [SWFR-3367]

The control of the ICS-6000 has been improved in a number of areas; instrument configuration, creation of the instrument method, handling of the consumables inventory, and Smart Startup, Smart Standby and Smart Shutdown.

3.6 Other Enhancements

3.6.1 Support Chromeleon on Windows 2016 Server [SWFR-2666]

Chromeleon 7.2.8 has been tested on the Windows 2016 Server operating system.

The following Chromeleon components can be installed on run on Windows 2016 Server:

- Chromeleon Domain Controller
- Chromeleon Data Vault Server
- Chromeleon Raw Data Server
- Chromeleon Client

3.6.2 New Station Installation Qualification [SWFR-1058]

The Station IQ tool has been rewritten from the ground up to support extensibility, enhanced checking, an easy to read report, and the following enhancements:

- Station IQ now checks Windows Firewall rules [CM7-5175]. When a third party firewall is used, Station IQ shows a recommendation to check the firewall rules of the third party firewall [CM7-24538].
- The Station IQ reference data ("inventory" files) are now digitally signed to prevent manipulation. [CM7-8879]
- Station IQ now records system and user locale settings such as number and date format. [CM7-10995]
- A summary of errors and warnings is now shown at the top of the report. The entries are linked to the corresponding section of the report containing further details. [CM7-1579, CM7-14315]
- In the "Packages" section, IQ now reports the installed version of packages which are installed with Chromeleon, such as Microsoft components, mass spectrometry components, and third party drivers. It also checks that the expected version is installed [CM7-17246]

Note: A warning is issued if a newer version than expected is found.

The new Station IQ also fixes many issues that were present in the old Station IQ tool, see section 4.1

3.6.3 Execute Installation Qualification as part of System Status Report [CM-3203]

The System Status Report contains a new option; "Installation Qualification".

- When set to ON, a new IQ report is generated and included in the SSR Zip Archive
- When set to OFF, no IQ report is generated or included in the SSR Zip Archive

The content of an SSR-generated IQ report is identical to an IQ report created by any other mechanism.

3.6.4 Automated results export to external application [CM-193]

If Chromatography results are being exported from Chromeleon to an external application (such as Thermo Scientific SampleManager LIMS), Chromeleon 7.2.8 introduces a way for Chromeleon System Administrators to integrate this export as an automated step in the Electronic Signature workflow.

A new configuration option in the Electronic Signature policy allows the export to be triggered at one of the following transitions:

- When the Sequence is Submitted into the eSignature workflow
- When the Sequence is marked as Reviewed
- When the Sequence is marked as Approved

Exporting results to SampleManager requires the Chromeleon-to-SampleManager link components to be installed and configured on each Chromeleon client.

3.6.5 Post-sequence reporting improvements [SWFR-610, SWFR-1686, SWFR-420]

Prior to Chromeleon 7.2.8, in order to automatically generate a report at the end of acquisition of a Sequence, the user would need to open the Instrument Queue tab, select a post-sequence or post-injection reporting option, and leave the Chromeleon Client application open until all reports had been produced.

Chromeleon 7.2.8 introduces a number of improvements in this area:

- The Instrument Queue tab no longer needs to be opened for reporting to take place
- Reporting is performed even if the Chromeleon Client gets closed after starting the sequence acquiring
- Post-injection and post-sequence report options are now defined in the Sequence. These can be pre-defined in the eWorkflow, selected in the Sequence before acquisition starts, or edited in the Sequence while it is acquiring
- System Administrators can also 'enforce' reporting options in the Queue Settings tab of the Instrument Properties dialog box. These options will then be applied to all sequences acquired on that Instrument

3.6.6 Compliance [SWFR-944, SWFR-2586, SWFR-1097]

Chromeleon 7.2.8 introduces a global policy to prevent deleting users [SWFR-944]. With the introduction of Organizational Units greater control over deleting users is required. A new global policy which cannot be overwritten by OrgUnit administrators controls whether OrgUnit administrators are allowed to delete users or not.

Chromeleon 7.2.8 introduces a global policy to prevent reuse of a user name [SWFR-2586]. This functionality ensures that the user name is unique for each user. Previously it had been possible to reuse a User Name that a user had been assigned but has either subsequently been changed or deleted. However, in a regulated environment all user names must be unique for the entire lifetime of the software.

Chromeleon 7.2.8 introduces the ability to clone access groups and roles [SWFR-1097]. This feature makes it easier to create a new role or access group that only differs in a few options from an already existing one. Using the clone functionality an access group or role can be copied, modified and saved as a new object.

4 Resolved Issues

This chapter describes the issues that have been resolved with the release of Chromeleon 7.2.8.

Many trivial and minor issues have been resolved, but are not mentioned here. If you require information about the status of an issue observed in a Chromeleon 7 release, but which is not listed here, please contact your local Thermo Fisher Scientific representative for more information.

The numbers in the first column of the table below refer to the Thermo Fisher Scientific tracking IDs.

ID	Description
CM7-5339	Audit Trail: Restoring an older version of a Spectral Library produced two entries in the data audit trail of the containing sequence instead of one as expected. Now the spurious entry "Changed Library Spectrum" is no longer generated.
CM7-7292	Administration Console: Local Machine: A second log-in would be required when launching a subordinate tool (Discovery, Data Vault Manager) from the Administration Console, instead of the logged-in credentials being passed through to the subordinate tool.
CM7-15336	Client: Import/Export: Non-Unicode characters in a Sequence name would be replaced by underscore(s) if the sequence was exported to .pdf.
CM7-16248	Client: Import/Export: If an acquiring sequence was exported, the data path displayed in the Export dialog box was incorrect.
CM7-18239	Instruments: GC Drivers: TRACE 1300 GC: The ECD Acquisition Rate was limited to 60 Hz (when line frequency is 60 Hz) or 100 Hz (when line frequency is 50 Hz) instead of 300 Hz for either line frequency.
CM7-19018	Client: Console: When a sequence was first assigned to one instrument's queue, then to a second, and the sequence was started for the second, the run would fail. Now Chromeleon will throw an error when the sequence is added to the second queue that states that the sequence is already assigned to another instrument's queue.
CM7-19204	Client: Console: Data: Import External: The Method Path field was incorrectly displayed for import types which don't support this field.
CM7-20261	Client: Studio: After signing a sequence using an external report, the report would stay locked until the user who signed the sequence logged out.
CM7-20435	Sequence Queue: Improved the download speed for sequences with many injections, in particular if versioning is enabled and injections were added to the sequence many times. For very large sequences, the download may still take several minutes, and may fail due a timeout. As a workaround, split the sequence into several smaller sequences, or increase the timeout on the IPCs by setting the system environment variable REQUEST_TXP_TIMEOUT. The value is in milliseconds. The default is 300000 (i.e. 5 minutes). The same speed improvement also applies to the creation of CMBX files with such sequences.
CM7-20637	User Management: In the event of a loss of network connection on a system using LDAP logon, attempting to logon to Chromeleon again with the same account details resulted in a misleading error message "The user name or password are incorrect." This has been fixed. It is now possible to logon to Chromeleon with the same account again after a loss of network connection.

ID	Description
CM7-20975	Panels: WPS-3000FC: The Tube Position and Tube Number ePanel values now update correctly during a run.
CM7-21054	Corrupt Report Template / Electronic Report: In some rare cases when the size of a report template or an electronic report of a single injection reached exactly a specific size, an error message (e.g. "The electronic report of the injection is corrupt and cannot be read") showed up in the corresponding window. This is fixed now. Such report templates or electronic reports can now be opened without an error.
CM7-21905	Client: Console: Data: In some circumstances it was possible to set the minimum value for a Sequence table's column to an invalid value, but doing so would then cause a "Value out of range" error to be displayed in the Sequence.
CM7-22296	Client: Studio: Electronic Report: If more than 255 characters were used in the comment field when removing the signature on a signed Sequence, the Sequence would be unsigned, but the associated Report would still be signed. Any subsequent attempt to Submit the Sequence would fail with the error "An error occurred during submitting: The signature status 'Submitted' cannot be applied if the current status is 'Submitted'"
CM7-22707	Client: Import/Export: The way Chromeleon handled an attempt to re-import a .cmb via drag-and-drop was incorrect, and the messages that Chromeleon displayed were misleading.
CM7-22795	Setup: when a reboot was needed, the task bar icon still displayed a progress indicator. If the Setup window was hidden behind other windows. It was therefore not clear that Setup was waiting for the user to confirm the reboot. Now the icon flashes instead to indicate that it needs attention.
CM7-23046	Instrument Controller: When editing the injection following the running injection, then saving the change(s) shortly (5 seconds or less) before the injection is started, in some instances the injection used the old properties. This has been addressed in Chromeleon 7.2.8.
CM7-23103	Import: Chromeleon 6 Data: when importing or viewing Chromeleon 6 data sets and using EN-US regional settings but with a modified decimal separator, e.g. comma instead of the default period, chromatogram results have not been imported correctly. In particular retention times of peaks have been converted to very large values so that the chromatogram plot normally didn't show peaks any more. Chromeleon is now using always the invariant decimal separator period for such import procedures which prevents such incorrect number conversions.
CM7-23161	Panels - UltiMate DAD-3000: In the "More Options" subpanel a spurious Mode property was available.
CM7-23284	Instruments, DDK Driver: In an instrument setup with several instruments, a DDK driver that was no longer working resulted in an abort message "The communication FIFO of the DDK driver is corrupted." being posted to all instruments. This has been fixed. A DDK driver that is no longer working now only posts the abort message to those instruments the DDK driver is installed on.
CM7-23327	Services: Discovery: The Discovery service would not start if the DiscoverySubscriberInfo.dat file was corrupt, causing the service to fail and throw an incorrect, unhandled SerializationException error.

ID	Description
CM7-23527	<p>Fraction Collection: Running a fraction collection method with a WPS-FC and reaching the limit of collection tubes CM put a corresponding error message "Illegal vial position ..." but didn't stop running the current injection and sequence. The default error level for this error message is now raised from 'Error' to 'Abort Error' thus aborting the current injection and sequence run.</p> <p>Note: Error levels are stored in the instrument configuration. So for existing installations either the error level of this error message above either needs to be raised manually or the WPS-driver needs to be removed from the instrument configuration and added afterwards again.</p>
CM7-23550	<p>Setup: When an error occurred during the configuration phase (at the end of the installation), Setup only reported "Configuration failed" without giving a reason. Now the reasons are listed.</p>
CM7-23586	<p>PerkinElmer GC: If the PerkinElmer GC stops with no response, the Real Time Kernel would crash. This has been fixed. If the PerkinElmer GC stops with no response, a message is written to the audit trail, the driver is disconnected and the Real Time Kernel does not crash.</p>
CM7-24143	<p>Data Audit Trail: For injections, the data audit trail did not track changes in the Status, Inject Time, and GUID fields.</p> <p>When displaying all properties, the current value was shown for the previous and new value. If the user changed injection properties before running the injection, this lead to the misleading impression that the user changed properties of a finished injection.</p>
CM7-24519	<p>Import: Chromeleon 6 Data: when importing Chromeleon 6 CMB-Files containing locked sequences a misleading and incorrect error message "The data item ... is read-only. Write access is denied" was shown during the import procedure. Nevertheless all sequences were imported correctly. This has been fixed. This error message no longer appears.</p>
CM7-24572	<p>Chromeleon XPS: If an eWorkflow, which uses relative vial positions in the Header/Footer block, was used to create a sequence in Chromeleon XPS, the resulting sequence could contain invalid vial positions for any Unknown samples.</p>
CM7-24592	<p>UltiMate Drivers - WPS-3000/ACC-3000: The autosamplers (WPS-3000/ACC-3000) would create dump files containing all USB communication without being requested to do so.</p>
CM7-24608	<p>Data Audit Trail: when opening the data audit trail for a huge number of records (e.g. for a complete datavault including subfolders) it could happen that an empty window without any content was shown.</p> <p>Note: Opening such a data audit trail with a huge number of records (e.g. for a complete datavault with 10,000 sequences or more) will still take quite some time. You might have to wait hours until you can see all the data audit trail records. There is also a chance that CM clients runs into an out-of-memory exception. To avoid that you can open the data audit trail in every subfolder of the datavault root to reduce the number of visible records.</p>
CM7-24684	<p>Agilent ICF: In rare cases, up-to-date tray configuration information was not received from ICF. Chromeleon would then improperly request the instrument to perform runs without injecting samples. This condition is now detected and results in an Error during Queue Ready Check.</p>
CM7-24709	<p>Client: Console: If a user was not part of the Access Group for a folder, then attempting to move or copy a file into that folder resulted in the software crashing.</p>
CM7-24730	<p>Vanquish Drivers: Column Compartment: If using a column compartment with only one valve configured, where the position of the valve should change for each injection, and the command for this is immediately following a temperature control or nominal command where the temperature hadn't changed compared with the preconditions, then occasionally the column compartment would appear not ready for use.</p>

ID	Description
CM7-24808	Third Party Device Drivers: Waters Acquity: In some cases an intermittent error was observed with an Acquity H-Class, leading to interrupted runs within the sequence and the message "Unsupported data format in the data header submitted by the module" in the audit trail.
CM7-24845	ICS-6000/5000+: Injection valve settings page no longer displays in the Instrument Method Wizard when no injection valve is configured for the DC module.
CM7-24879	PerkinElmer TurboMatrix HS Sampler: If the sampler was set into a special communication mode before (either by the PerkinElmer TurboChrom software or a different program such as a tool used by PE service technicians), then the sequence would crash when starting a headspace sequence.
CM7-24899	ICS-6000: In Dual EGC mode, the Smart Startup, Smart Standby and Smart Shutdown concentration settings have been removed from Standby and Shutdown method scripts, since they are not required. Chromeleon will no longer throw a preflight error due to these settings.
CM7-24921	Instruments: GC Drivers: Trace Ultra: Data packages which have been resent by the GC Driver were not being handled correctly, and could incorrectly appear in the Chromatogram.
CM7-24924	ICS-5000+: High-pressure valves are now properly displayed on the DC module's ePanel and are no longer displayed as low-pressure valves.
CM7-24925	ICS-5000+: Low-pressure valves controls now display on the DC module's ePanel when the valves are installed in the Automation Manager
CM7-24931	Rheodyne MXII: If a queue contains a large number of commands to set the position of the Rheodyne MXII to the same position as was previously set, then occasionally this would lead to an interrupted queue.
CM7-24974	<p>Client: Console: Import/Export: Importing of CMBX could result in the following error:</p> <p>(1): Dionex.Chromeleon.Data.DataException: The command 'INSERT INTO CJ_VERSION (VERSION_ID, VERSION_OBJECT_ID, NAME, UNIQUE_NAME, TYPE, PARENT_ID, PARENT_RELATION_TYPE, RELATIVE_ID, COPIED_ID, ITEM_TYPE_VERSION, COMMENT, VERSION_CREATE_TXN_ID, VERSION_INVALIDATE_TXN_ID, VERSION_CREATE_TXN_NO, VERSION_INVALIDATE_TXN_NO, VERSION_LAST_SIBLINGS_TXN_NO, EXTENSION_DATA) VALUES (@P0, @P1, @P2, @P3, @P4, @P5, @P6, @P7, @P8, @P9, @P10, @P11, @P12, @P13, @P14, @P15, @P16) {rest of SQL skipped}'; ' failed.</p> <p>(2): System.Data.SqlClient.SqlException: Cannot insert duplicate key row in object 'dbo.CJ_VERSION' with unique index 'IX_VERSION_NAME_TYPE_PARENT'. The duplicate key value is (1cb7e1e3-7b80-4a8c-8be1-460c1370afe7, 5609976132718149, 172606000, 9, 100).</p> <p>if the Sequence(s) in the CMBX had been created in Chromeleon 7.2 SR3, with versioning enabled, and a processing method had been saved while the sequence was downloading.</p>
CM7-24995	Instruments: GC Drivers - TriPlus RSH: If a TriPlus RSH autosampler was being used in shared mode, servicing two GCs, and a sequence was started on the 'main' GC while the autosampler was performing actions for the 'virtual' GC, Chromeleon would immediately report "Can't access the TriPlus" for the 'main' GC sequence, instead of waiting until the TriPlus had completed its actions for the 'virtual' GC.
CM7-25011	ICS-6000/5000: With either the CDM or the I/O board installed in the DC module, TTL Inputs can now be assigned to open or close the AC Relays 1 and 2.
CM7-25056	Instruments: Vanquish Drivers: Pumps: If the pump is in 'hold' mode when the injection is started, this results in a flow command not being executed. The pump continues to pump with the initial flow. The flow command is now correctly executed even if the pump was in 'hold' mode when the injection started.

ID	Description
CM7-25068	Client: Studio: When two users have the same sequence open, and user A locks a certain injection, if user B then tries to modify the chromatogram of this injection, user B was (correctly) notified that the change cannot be saved due to user A's change. However, if user B then discarded the change and repeated it, the injection was saved. This should not be possible as the injection is locked. Now Chromeleon correctly recognizes that the injection is locked and prevents the change in this scenario.
CM7-25070	Lock Injection: If a sequence is opened by user A and B at the same time in different CM client sessions it may happen that the changes of user A are not immediately visible for user B. In such a scenario user B could lock an injection although the results of this injection might change if the changes of user A would have been applied in the meantime. In a rare scenario an injection could have been even locked twice by both users. This incorrect multi-user behaviour is fixed now. User B will not be allowed to lock an injection if the sequence has been changed in the meantime by user A so that results of this injection might be affected. In particular an injection cannot be locked anymore twice by two users at the same time.
CM7-25093	Sequence editor: in rare cases, when creating a new sequence from an existing finished sequence via "Save As..." (without raw data), the new sequence retained Inject Time and Status values from the original sequence (but not the raw data).
CM7-25100	Instrument Configuration / Chromeleon Domain Controller: When invalid characters were used in instrument names for the entire Chromeleon Domain, access to data vaults and instruments was not possible in a reliable way anymore.
CM7-25123	Administration Console: Password Recovery: Having activated authorization for privileged action 'LDAP Logon' in section 'Administration User Policies' and having deactivated LDAP Logon by mistake but not having any emergency CM Admin account with a non-LDAP-password, it is still possible to logon to the Chromeleon Administration Console using the administrator password recovery workflow. Yet it is not possible to correct the damaged LDAP Logon policy settings as this requires authorization and this is not possible until the LDAP Logon policy settings are corrected. With 7.2.8 the authorization request for changing the LDAP Logon policy settings is now skipped if the logon has been done via the administration password recovery.
CM7-25126	Instrument Controller: Data vaults sometimes disappeared momentarily from the network, in particular during startup. As a result, the Instrument Audit Trail was written to different local data vault or even the XVault.
CM7-25148	eWorkflows: When a data vault had a large number of eWorkflows, the Console would become unresponsive and could report an out of memory error when switching categories.
CM7-25189	ICS-6000: Running two channels on an ICS-6000 system with one channel set to allow tag read/writes during runs no longer adds an additional injection count between blanks on that channels tags.
CM7-25190	ICS-5000+: The suppressor current setting on the DC ePanel now displays properly.
CM7-25191	Custom Variable: It was not possible for a 'Numeric' custom variable to have a default of 'Blank', even if empty values were allowed
CM7-25197	ICS-6000: When switching between two Chromeleon Instruments, the Consumables Inventory no longer opens automatically, unless that page is open immediately prior to switching.
CM7-25198	ISQ-EC: When running a sequence, the ISQ-EC occasionally disconnected between injections, resulting in the sequence being aborted. The instrument audit trail reported: "communication FIFO of the DDK is corrupted". To recover it was necessary to stop and restart the instrument controller.

ID	Description
CM7-25209	eWorkflows: When a data vault had a large number of eWorkflows, it could take several minutes for the list of eWorkflows to be updated on other machines in the Chromeleon Domain
CM7-25213	Aquion/ICS-2x00/ICS-1x00: Selecting a suppressor type other than None in the Instrument Method Wizard/Editor will now correctly populate the Concentration and Current fields on the Suppressor Options page, ensure that Current Set is editable and that the Suppressor_Current command is added to the Instrument Method.
CM7-25214	Reporting: When working with MS sequences containing a very large number of XICs, it would take a very long time to open a report template containing a consolidated report table.
CM7-25256	DC-6000: 'CDM Connected' control is now connected to the correct commands/properties and functions correctly.
CM7-25260	eWorkflows: When restoring an eWorkflow from an ewfx file, if an eWorkflow with the same name already existed, an exception error occurred if you attempted to overwrite the eWorkflow.
CM7-25268	Processing Method: When identifying peaks based on a reference mass spectrum, if the MS baseline correction settings were changed, the component assignments were not re-evaluated.
CM7-25270	Vanquish FLD and UltiMate 3000 FLD: It was not possible to acquire the FLfield at the same time as the Flowcell temperature channel. This was the case only if using Chromeleon 7.2.7.
CM7-25302	eWorkflow Editor: Renaming an injection template was not stored, although it was logged in the audit trail. This only happened if the rename was combined with another change (property update) in the same save operation. The property update was not necessarily something that is triggered by the user, as there some scenarios where an eWorkflow is immediately changed after opening due to internal metadata updates (issue CM7-25321).
CM7-25369	Integrion: After consumables tag approval some consumables, when selected in the Consumables Inventory list, would not show the detailed tag information. Instead, the "Get Details" button would be displayed.
CM7-25390	Third Party LC Drivers - Agilent Chromeleon Drivers: On rare occasions, especially when the acquisition PC has an extremely high CPU utilisation, a high degree of RAM capacity utilisation and very high Input / Output (I/O) activity, there was an infrequent possibility that an injection location is ignored and the previous injection location was used again, without being correctly noted in the Audit Trail. Agilent Chromeleon Drivers 1.1 Update 1 should be installed to prevent this occurring.
CM7-25426	Cobra Peak Detection: Detect Negative Peaks: The Cobra peak detection algorithm associated with version 7.2.7 does not evaluate the parameter 'Detect Negative Peaks' if it is switched on and the Baseline Types 'Lock at current level' or 'Lock at global minimum' are not active. Version 7.2.8 introduces a new version of the Cobra algorithm which fixes this. Note: Processing methods associated with version 7.2.7, i.e. which have been created with 7.2.7 or have been modified via 7.2.7 and explicitly updated the Cobra algorithm are still using the version of the Cobra algorithm which cannot detect negative peaks. If you want to apply negative peak detection with these processing methods you have to update the Cobra algorithm to the latest version associated with 7.2.8. Processing methods associated with a version prior to 7.2.7 are not affected.

ID	Description
CM7-25462	Services: Data vaults sometimes disappeared momentarily from the network, in particular during startup. This sometimes caused running sequences to be aborted with the error: The running or preparing injection with the URL "[...]" has been deleted or moved to a different location.
CM7-25479	Audit Trails: When moving an object (e.g. Processing Method) from a folder to a sub-folder, the action was recorded in the audit trail of the container folder, but was not tracked in the audit trail of the object itself.
CM7-25509	Instrument Controller: Data vaults sometimes disappeared momentarily from the network, in particular during startup. This sometimes caused sequences to be downloaded to a regular local data vault instead of the XVault.
CM7-25546	ICS-2100/2000: Eluent cartridge information is now being shown in the Instrument Method Wizard and Editor when creating new or reviewing existing instrument methods.

4.1 Issues resolved with the new Station Installation Qualification Tool

The rewritten Station IQ tool fixes these issues that were present in the old Station IQ tool:

ID	Description
CM7-4994	Cancelling Installation Qualification no longer results in an incomplete report.
CM7-9291	The summary at the top of the report contained some very confusing counts (No. of failing files / errors / warnings) that apparently did not match the actual number of errors and warnings. (The numbers were "technically correct", but the representation was misleading.) The new report summary presents this in a much clearer manner.
CM7-11699	For many files, CmlqData.xml contained wrong reference information. Station IQ nevertheless reported no deviation as long as the digital signature ("strong name") was correct. Note that due to the digital signature check, modified files were still properly detected. The wrong reference information would only affect the expected values that have been reported in an error.
CM7-19853	The Agilent SFC package (part of ICF) was not listed in the IQ report

5 Limitations and Known Issues

The following sections list known issues and limitations. The numbers in the first column of the table below refer to the Thermo Fisher Scientific tracking IDs.

5.1 Limitations with Thermo Scientific Instruments

ID	Description
CM7-15457	ESA Drivers: Coulochem III: Before setting the cell state to ON manually, please ensure that eluent is flowing into the detector. Otherwise the detector can be damaged.
CM7-15632	TSQ Quantiva and Endura: When removing the source from a TSQ Quantiva or Endura in mid-acquisition, the sequence does not abort.
CM7-16030	TSQ Quantiva and Endura: With these instruments the standby state reports that the instrument is on, regardless of the real instrument state.
CM7-16154	TSQ Quantiva and Endura: When creating an Instrument Method for the TSQ Endura or TSQ Quantiva, the MS run time is not the same as the Chromeleon run time. The user should enter the correct run time on the MS page of the Wizard.
CM7-16557	MSQ Plus and Tune Application: When using the MSQ Plus with Chromeleon the user has to wait for the Chromeleon Instrument Controller to be in idle mode before opening the Tune application. Without waiting, the MSQ Plus will not be able to change the operating mode (On, Off, Standby), or it will not be possible to run injections. To recover from this error both the PC and the MSQ Plus would have to be restarted.
CM7-16851	UltiMate 3000 MWD-3000 and DAD-3000: In the Instrument Method Editor for these devices, the script page offers one additional option for the data collection rate (20 Hz) that is not present in the Instrument Method Wizard. This additional option is a valid value for this parameter. Although it is possible to manually type in a value for the data collection rate that is not in the list, these values will be rejected by the Ready Check when a sequence is submitted.
CM7-17500	Exactive Series: Exactive Series instruments are usually shipped with a PC ("Exactive PC") that includes all the necessary instrument data files, such as calibration files, for operating the instrument. If you want to control an Exactive instrument using a different PC, make sure that the specific instrument data files residing on the Exactive PC are backed up and transferred to the new PC. For details on performing the data backup on the Exactive PC, refer to the Thermo Exactive Series 2.5 SP1 Release Notes, section Backup provided on the Chromeleon installation disk in the Packages\Thermo Exactive\Documentation folder.
CM7-17668	TSQ Quantiva and Endura: TSQ Endura and TSQ Quantiva instruments are usually shipped with a PC ("Endura/Quantiva PC") that includes all the necessary instrument data files, such as calibration files, for operating the MS instrument. If you want to control an instrument using a different PC, make sure that the specific instrument data files residing on the Endura or Quantiva PC are backed up and transferred to the new PC. For details on performing this process, please consult with your local MS field service engineer.
CM7-18098	Accela Open Autosampler: Sequences cannot be run when the sampler does not include the DLW option. This configuration is not supported and requires a custom script.
CM7-18129	TSQ Quantiva and Endura: After an upgrade of the TSQ Endura/Quantiva instrument driver, an error may occur when opening the Chromeleon Instrument Configuration. To resolve the error, remove the Chromeleon Mass Spectrometer driver from the configuration and then add it again. This will update the configuration information in Chromeleon to match the updated TSQ Endura/Quantiva instrument driver version.

ID	Description
CM7-20295	TSQ 8000 and ISQ Series: When a GC-MS instrument method includes a scan event containing multiple SIM ions (e.g. "SIM 115, 152, 188") then data from matching filters collected at different time ranges will not be combined into a single filter in the data for that injection.
CM7-20547	247 Instrument Controller: TDS4: Due to the smaller internal storage space available on TDS4 models of 247 Instrument Controller, and the larger data files created by 3D acquisition, TDS4 models of 247 should only be used to acquire 2D data. To acquire 3D data, a TDS5 model of 247 should be used.
CM7-21342	Vanquish Variable Wavelength Detector: For acquiring data on a single channel only using the Vanquish VWD it is necessary to use channel UV_VIS_1.
CM7-21967	TSQ Quantiva and Endura: The TSQ Endura and Quantiva mass spectrometer method editor is supported on English operating systems with English/United States regional settings only.
CM7-22490	Exactive Series: When setting the divert valve parameters for an Exactive Series MS with a 2-position valve, the valve positions are recorded in the MS raw data opposite of how the divert valve parameters were configured.
CM7-23138	MSQ Plus: It is recommended to use only the MS driver provided on the Chromeleon installation medium. Other versions of the MSQ Plus driver may not be compatible with Chromeleon. Please consult your local field service engineer for additional details.
CM7-23295	Exactive Series: Due to differences in how the Exactive 2.8 SP1 driver writes the scan header in MS data files during acquisition, non-targeted peak detection will not work correctly when data generated from both the Exactive 2.8 SP1 driver and older drivers are present in the same sequence.
CM7-23442	<p>Reporting: In order to display the date and time in the Header/Footer of reports one can use the spreadsheet placeholders &D and &T respectively. During report creation these placeholders are replaced by the current date and time and formatted via the regional settings of the currently logged on Windows user account. Yet this doesn't work correctly for every regional settings, e.g., 24 hour time formatting.</p> <p>Instead of using &D and &T one can use the Chromeleon report formula <code>gen.currentTime</code> or <code>gen.reportTime</code> together with the necessary format, e.g. <code>{gen.currentTime; "dd.mm.yyy hh:mm"}</code>.</p> <p>Note: the formula <code>gen.currentTime</code> is replaced by the current date/time during the electronic report creation. If you want to display the date/time when the electronic report is really printed or exported you have to use the formula <code>gen.reportTime</code>.</p>
CM7-23669	TSQ 8000 Series: If you attempt to abort an acquisition of multiple timed acquisitions while the MS is acquiring data, the MS will not cycle back to a Ready state and the sequence will not end. It is necessary to stop and restart the Instrument Controller to regain access to the instrument.
CM7-24348	Privileged Actions: When privileged actions are configured to require authentication and a comment, if a user action caused the "Authorization and Comment" dialog box to be displayed, then if the dialog was left open for more than a minute before clicking Ok, an error message was displayed. This was observed when clicking 'Save As' on a processing method in the Studio.
CM7-24384	<p>Setup: When Chromeleon 7.2 SR5 is installed on a Windows 10 PC, upgrading that PC to Chromeleon 7.2.6 will appear to complete successfully, with no IQ errors or warnings. However, attempting to export a sequence to PDF will fail with an error stating "Printer not activated, error code - 30".</p> <p>To resolve this problem, rerun the Chromeleon 7.2.6 setup, selecting 'Repair' on the opening screen of the setup program.</p>

ID	Description
CM7-24445	TSQ Quantiva and Endura: Instrument methods written with an earlier version of the method editor cannot be opened with a newer version thereof.
CM7-24471	<p>Shared Devices: When configuring an Ultimate 3000 DGP or a Vanquish Dual Pump, a Vanquish Dual Autosampler, or Vanquish Column Compartment that is shared between two instruments, make sure to use non-identical device names for the instrument devices (e.g., PumpLeft and PumpRight).</p> <p>If an Ultimate 3000 DGP or a Vanquish Dual Pump, a Vanquish Dual Autosampler, or Vanquish Column Compartment are shared between two instruments with identical device names (e.g., "Pump") in both instruments, removing the driver from one instrument and moving it to the other instrument results in a fatal error.</p> <p>Workaround: Rename the instrument devices to non-identical device names (e.g., rename the pump units to PumpLeft and PumpRight). Save the instrument configuration and restart the server. Alternatively, remove the driver, save the configuration, restart the server and re-add the driver again.</p>
CM7-24600	Spectral Library: If an older Chromeleon version than Chromeleon 7.2.7 is used to create and name components from library screening results, then upon selecting the folder reference attempts to close the dialogue with OK will result in an exception being thrown.
CM7-24825	Client: Studio: Processing Method: A sample with a processing method created in Chromeleon 7.2.7 when opened in the Chromeleon 7.2.6 in the Studio should show a notification bar indicating that the evaluation results may differ from those using the version which was used to create/save the processing method. This notification bar is not displayed.
CM7-25295	Vanquish Drivers: For the Vanquish Dual Split Sampler (VH-A40-A-02 and VF-A40-A-02) relays are shared between instruments. Manual changes on one instrument also affect the other instrument. If a sequence is running on the other instrument, no warning is issued.
CM7-25296	Vanquish Drivers: For the Vanquish Dual Pump F (VF-P32-A-01) relays are shared between instruments. Manual changes on one instrument also affect the other instrument. If a sequence is running on the other instrument, no warning is issued.
CM7-25337	Vanquish Drivers: For an instrument with the Vanquish Dual Split Sampler (VF-A40-A or VH-A40-A) and an instrument method configured for the left sampling unit using the default Smart Shutdown settings, Smart Shutdown purges the right sampling unit (and vice versa).
CM7-25370	Client: Studio: Instrument Method, Electronic Report: An inverse gradient method created on Chromeleon 7.2.7 (or earlier) can be run on Chromeleon 7.2.8. However, Chromeleon 7.2.8 does not support Smart Startup, Smart Standby or Smart Shutdown settings for inverse (or tandem) gradient methods. Hence in Chromeleon 7.2.8, for an inverse gradient method created on Chromeleon 7.2.7 (or earlier) any Smart Startup, Smart Standby and/or Smart Shutdown settings included in the method are neither executed nor reported with Chromeleon 7.2.8.
CM7-25447	Vanquish Drivers - Vanquish Duo Autosampler: If the user adjusts the needle height, this is only adjusted for the left hand sampler unit, and not for both sampling units as would be expected. The user should use the property Sampler2.SampleHeight to set the height for the right hand sampling unit
CM7-25466	Instruments: Vanquish Drivers: For a Dual Autosampler in shared mode, where both instrument methods have different temperatures set, the temperature setting of the sequence started first is overwritten by the setting of the sequence started second.

ID	Description
CM7-25532	Client: Studio: Instrument Method – Method Translation: When creating an instrument method for a given instrument configuration, then removing a module from the instrument configuration and using the Method Translation Tool to update the instrument method, in some cases there is no indication in the Method Translation Tool that the initial instrument method contained settings for the removed module. However, these settings are correctly removed from the instrument method by the tool.
CM7-25553	Client: Studio: Instrument Method - Method Translation: The method translation is not working when attempting to translate an instrument method for a Waters UPLC instrument, for which a module was deleted after the instrument method was created. The method translation is not enabled for such an instrument method and the steps for the deleted module remain in the method.
CM7-25567	ISQ EC: Under some circumstances, the parameters for Start Startup, Smart Standby and Smart Shutdown will not be sent to the hardware, even though the instrument audit trail indicates that the values were sent. It is recommended not to use Smart Startup, Smart Standby and Smart Shutdown with this release.
CM7-25600	Instruments: GC Drivers: When running the TriPlus RSH or TriPlus 100 in Clone mode (Autosampler serves two GCs), if the Virtual Terminal is opened from the ePanel of one of the GCs and a Sequence is started for the other, the Sequence fails with an error; "Sample - Error while validating script. (Trayplate 1: Slot 1:3)". This can be worked-around by closing the Virtual Terminal on GC1 before attempting to start the run on GC2.
CM6-21321	Accela Open Autosampler: When using this autosampler, a dot (‘.’) must be used as decimal separator.
CM6-22760	TRACE 1300 GC: The autozero function does not work correctly for the FID, NPD, ECD and FPD detector types.
CM6-23614	TriPlus RSH: When using the TriPlus RSH in constant double pro headspace mode, starting a sequence that includes a constant double pro method will generate a validation error.
CM6-24043	TriPlus RSH: If firmware version 2.2 is installed on the TriPlus RSH autosampler, then tool changes on the instrument are not immediately recognized in Chromeleon. It is necessary to disconnect and reconnect the instrument after such changes are made; they will then be detected.

5.2 Upgrading a Windows 10 PC From Chromeleon 7.2 SR5 to Chromeleon 7.2.8

When Chromeleon 7.2 SR5 is installed on a Windows 10 PC, upgrading that PC to Chromeleon 7.2.8 will appear to complete successfully, with no IQ errors or warnings. However, attempting to export a sequence to PDF will fail with an error stating “Printer not activated, error code – 30”.

To resolve this problem, rerun the Chromeleon 7.2.8 setup, selecting ‘Repair’ on the opening screen of the setup program.

5.3 Compatibility with Foundation 3.1

Chromeleon is only compatible with Thermo Foundation 3.0 SP2. Users may encounter situations where PCs provided with mass spectrometers come pre-installed with Foundation 3.1 or newer. In these instances, the factory procedure to uninstall any MS instrument control component software must first be followed before reinstalling Foundation 3.0 SP2 and the mass spectrometer driver.

This procedure must only be carried out by individuals that have completed the necessary software and hardware training.

5.4 Limitations with the Waters Driver Pack

ID	Description
CM7-19830	Waters Acquity: When using the Waters Acquity driver in a Citrix environment, the Acquity console does not update correctly and therefore doesn't show current log file entries. This is due to a problem in the Acquity console, and can be mitigated by using the instrument audit trail on remote clients.
CM7-20374	Waters Acquity: If the user attempts to open an Instrument method on a PC where the Waters Driver Pack is installed, but then selects "work offline", an error message will be shown. This is a problem of the Waters Driver Pack, the workaround is to ensure that the instrument can be reached, i.e. work online.
CM7-22872 CM7-15225	Waters Acquity - Console: When using the Waters Acquity driver, some Chromeleon screens may not appear properly, such that text from the previous screen is still visible. This has been observed with the Sequence Properties and the Chromeleon Log on screen.
CM7-23504	Waters Acquity: In rare circumstances when the user configures and then deletes an Acquity PDA, the module will still be shown in the Acquity Console. If a command is then executed (e.g. lamp on), the module disappears from the console, after which the user then needs to reconfigure the instrument in the Chromeleon Instrument Configuration Manager in order e.g. to turn off the lamp.
CM7-23730	Waters Acquity: When using the Waters Acquity Driver Pack4 and trying either to create a new instrument method, or to open the Acquity console from the ePanel a problem sometimes occurs. A message appears informing the user that launching the application had failed, and that the Acquity driver pack may not be installed. If this occurs, the user should contact Thermo Fisher Scientific for further advice.
CM7-24022	Waters Acquity: If the user has two Acquity systems connected to one Instrument Controller, the range for the column temperature in the Waters method editor does not always match the hardware configuration. This is affecting the method editor only, and occurs when opening a method for instrument A while the Acquity console for instrument B is open.
CM-9703	Waters Driver Pack 2017 R2: When installing Waters Driver Pack 2017 R2 ensure that Microsoft Windows Universal C Runtime (KB2999226) is installed. This is to avoid failure of Waters Driver Pack 2017 R2's DM.exe application, which depends on the Windows Universal C Runtime that this hotfix provides for older Windows platforms.
CM6-21112	Waters 2998 PDA: Localization to a non-English regional setting for the PC (e.g., German) does not function correctly for the timed events table, e.g., using a Waters 2998 PDA detector and setting a timed event in the program file (e.g., wavelength change at 5 minutes). The event is recorded, but without the event time.
CM6-23194	After removing the Sample Organizer from the Instrument Configuration, the plate setup is not updated correctly. Manually updating the plate settings in the plate setup configuration dialog avoids this issue. If the total length of the instrument name plus detector name is more than 32 characters, the sequence will abort shortly after initial injection. The affected detectors are: 2489, 2998, and Acquity FLR.
CM6-24158	Waters 2489 PDA: After changing the Instrument Method from single to dual-wavelength mode (without changing Channel A wavelength), the data rate for Channel B is set incorrectly and incomplete data collection occurs.

ID	Description
CM6-24164	When the Waters Driver Pack 4 is installed in a Citrix environment, the World Wide Web Publishing Service is automatically disabled, so that after restarting the PC, the Citrix web application is no longer reachable. The service should be reset to automatic start, after which the application can be reached
CM6-24191	In extremely rare cases the Acquity PDA server stops working, which then causes the running sequence to be interrupted.

5.5 Limitations with Agilent ICF

For a general overview regarding the Agilent Instrument Control Framework, please refer to the document Chromeleon and Agilent ICF - Quick Start Guide - Chromeleon 7.2 .pdf, found in the \Documents\ folder of the Chromeleon 7.2 CDS DVD.

ID	Description
CM7-19347	Agilent G1312B DAD: When using a G1312B DAD in combination with an old JetDirect card, the user may experience problems collecting data at 80Hz. If the user observes this, they should get in touch with their local Thermo Fisher Scientific representative for advice on possible solutions.
CM7-19540	Agilent ICF: The Agilent GC System Configuration dialog includes entries to configure the 7697A Headspace, G1888A Headspace, 7890 GC, 6890 GC, 68550 GC, and 7820 GC. Currently, it is only possible to configure the 7697A Headspace sampler. Attempting to configure any of the other modules will result in a message indicating that the modules are not supported.
CM7-19863	Agilent ICF: The Agilent LC System Configuration dialog includes entries to configure the following devices, which are not supported by the release: All ELS Detectors (Drivers are not included, so they cannot be configured) Multi-sampler and DAD HDR (Although configurable, they have several known issues and are therefore not supported)
CM7-19975, CM7-20451	Agilent 7697A: The Soft Config option, available via the ICF for Agilent LCs, is not supported for the Agilent 7697 HS. It should not be added to any custom ePanel as its use can cause issues by allowing configuration changes to be applied to the sampler during acquisition.
CM7-19993	Agilent 7697A: If the 7697A loses its connection to the network, an audit trail message is added indicating this fact. However, the ePanel will still show the unit as 'Ready'.
CM7-20047	Agilent VWD G1314B: When using a G1314B VWD, occasionally the chromatogram is half the expected length.
CM7-20259	Agilent 7697A: Although the vial position may be assigned in the instrument method script, unless this is done in the Instrument Setup Stage, the sequence table will not be updated. This can result in misleading information in reports and should be avoided.
CM7-20991	Agilent ICF: Occasionally when performing injections with ICF controlled instruments the injection volume is incorrectly displayed, although the injection itself was performed correctly.
CM7-21172	Agilent ICF: If the user has the monitor DPI settings on their PC set at greater than 100%, then some parts of the Agilent LC system device ePanel are not visible.
CM7-21427, CM7-18984	Agilent ICF with 1100 or 1200 LC DAD: When acquiring data from an Agilent 1100 or 1200 LC DAD, the signal trace may be shifted to the start of the run, and the end time is inconsistent. No data points are lost with a data rate of 10 Hz and slower (≥ 0.025 min 0.5 sec) 20 Hz and a low number of spectra (all other than ALL Spectra) 20 Hz and spectrum range 190- 400 step 2
CM7-22051	Agilent LC ICF: Aborting an injection after the start of a sequence but before the injection resulted in an error, requiring the instrument controller to be restarted
CM7-22567	Agilent ICF: When using a Diode Array Detector with the Agilent ICF, it is necessary to enable spectra collection initially (this also allows to specify the wavelength range to be used in this run). If no spectra are needed for a specific time window during the run, use

ID	Description
	the timetable to temporarily set the mode to "None".
CM7-23096	Agilent ICF: If a Fraction Collector with Thermostat is installed, the channel mapping is not correct. This can be resolved by removing the <Channel name="FC: Delay Sensor"> node from DefaultConfiguration.xml before adding the driver. After this, the user can configure the mapping for the two channels manually on the Signals (2D) tab of the configuration dialog.
CM7-23242	Agilent 7697A: Running multiple 7697A Headspace autosamplers on a single 247 Instrument Controller can cause Windows "Out Of Memory" errors, requiring a reboot of the 247 to resolve. Thermo Fisher therefore recommends that only one 7697A is connected to any 247 Instrument Controller.
CM7-23341	Setup - Uninstall: When Agilent ICF is installed, un-install of either Chromeleon or Agilent ICF fails if the Instrument Controller is running: Failed to execute package Agilent Instrument Control Framework A.02.04. Another application has exclusive access to the file 'C:\ProgramData\Agilent Technologies\Instrument Control Framework\RCDriver.log'. Please shut down all other applications, then click Retry. To avoid this issue, stop the Instrument Controller before uninstalling
CM6-23980	Agilent 7697A: When starting a sequence while the 7697A Headspace Sampler is in an 'Error', 'Running', or 'Not Connected' state, the ready check does not give an error message. After the sequence starts, the following happens: If the sampler is in error state, the sequence starts without getting interrupted If the sampler is running, the sequence stops with audit trail message "Sequence stopped by user" If the sampler is not connected, the sequence interrupts with audit trail messages "Lost connection to Agilent 7697A Headspace Sampler", and "The instrument is offline. Check power to all modules, cabling between modules and whether the configuration matches the list of modules."
CM6-23992	Agilent 7697A: The 7697 Headspace Sampler has two versions; 111- and 12-vial capacity configurations. The Chromeleon driver is written and tested with the 111 vial capacity version. Though not tested, the driver is expected to work with the 12-vial capacity module. The user should not use vial positions greater than 12 in this case. The rack view always shows 111 vial positions.
CM6-23996, CM7-19940, CM7-21324	Agilent 7697A: The 7697 Headspace Autosampler has two options for handling missing vials: Pause and Abort. An issue has been observed when the Abort option has been selected. In either mode, the autosampler overlaps sample preparation, i.e.: sample 2 is prepared while sample 1 is acquiring. If the autosampler finds that the sample 1 vial is missing, it will Abort or Pause the sequence at the point it discovers the vial is missing. However, if the autosampler finds that the sample 2 vial is missing, while sample 1 is already acquiring, and the Abort option has been selected, the entire sequence will be aborted, including the acquiring sample 1.
CM6-24004	Agilent 7697A: Using the instrument front panel, the allowed range for Transfer Line Diameter is 200-600 microns. However, when setting this value in the Chromeleon instrument configuration the limit is 250-530 microns.
CM6-24005	Agilent 7697A: When 7697A headspace instrument method parameters are included in a report, the "fill pressure" parameter is rounded to the nearest integer.
CM6-24007	Agilent 7697A: Some parameters logged to the instrument audit trail are rounded to nearest integer. However, all values are downloaded to the instrument with the proper precision.

ID	Description
CM6-24008	Agilent 7697A: When editing an existing 7697A Headspace instrument method, if the values for Purge Flow, Purge Time or Leak Flow are changed, the Save button is not enabled until the user changes tabs.
CM6-24009	Agilent 7697A: When configuring an Agilent 7697A, there is an option in the user interface to "Upload Config from Instrument". This option does not work. Instead, you will need to manually configure the instrument settings.

5.6 Limitations with Other Third Party Instruments

ID	Description
CM7-9675	Agilent 7890 GC: There is a backward compatibility issue that affects the Agilent 7890 GC Sampler Positions. When using a 7890 GC in combination with a 7693 sampler, certain positions in the sampler could give a misspelled value to a move command. This has now been corrected and could in rare cases lead to Instrument Method files needing to be updated to avoid errors.
CM7-12366	<p>Agilent 5890 DICE Card: Please note the following when using the 19257 DICE card with the Agilent 5890 GC:</p> <p>Control and acquisition using the DICE card is only supported via the serial interface. The GPIB interface is not supported.</p> <p>Digital data acquisition via the serial interface of the DICE card is only supported for a single channel; dual channel digital acquisition is not supported.</p> <p>Currently, it is possible to select certain illegal combinations in the Configuration Dialog such as:</p> <p>Digital acquisition with the 19254 card. This is not supported.</p> <p>Digital acquisition on one detector and analog acquisition on the other. Acquisition needs to be exclusively digital or exclusively analog.</p> <p>When using the DICE card to acquire data digitally, the 5890 INET mode must be set to "GLOBAL" not "LOCAL". Failure to do so will result in a "No response from GC" message following the AcqOn command in the audit trail.</p> <p>Note that when performing analog acquisition, the 5890 INET mode should still be set to "LOCAL" (as described in the online help).</p>
CM7-15293, CM7-18463	Agilent 1100 Obsolete Driver: Occasionally, when using a combination of older and newer modules, the raw data was not correctly acquired.
CM7-15400, CM7-15556, CM7-15734, CM7-15736	PerkinElmer LC200 Autosampler: When upgrading from earlier versions of Chromeleon 7 CDS to Chromeleon 7.2 CDS SR3, it is necessary to reload the PerkinElmer LC200 Autosampler driver and configure the loop size within the configuration. The user should then check all instrument methods using this autosampler to ensure that they continue to function correctly.
CM7-15716	PerkinElmer Clarus 400 GC: Some users must select Autosystem XL in configuration in order to communicate with the PerkinElmer Clarus™ 400.
CM7-17948	Shimadzu LC: Unlike most drivers, some Shimadzu UV detectors require that you select the Advanced filter in the Command (F8) window in order to access the Lamp On/Off command.
CM7-20464	Varian 3800 GC: It is not possible to start a manual data acquisition if the GC is not ready (i.e. all temperatures, pressures and so on are at their set points). Trying to do so will generate a Ready Check message detailing what is not ready.

ID	Description
CM7-24724	Agilent 7890B GC: With certain firmware versions, the GC does not properly send abort information to the software, meaning that events such as FID flame out, pressure errors, hardware faults and so on, will not be recognized or reported by Chromeleon. The problem is seen in FW versions B.02.01, B.02.04.2 and B.02.05, but not versions A.01.xx.x. The 7890A GC does not seem to have this problem.
CM7-24840	PerkinElmer Clarus 580 GC: For the PerkinElmer Clarus 580 GC without an internal autosampler the automatic type recognition of the PerkinElmer GC driver configuration module fails for the 580 type. The automatic type recognition detects a 500 series instead. Setting the GC type to 580 manually does not allow to connect to the instrument. Workaround: Leaving the setting on 500 (or 600) allows to connect to the instrument and to control it properly.
CM7-24868	Shimadzu LC-2010A: If using a large injection volume, samples could remain in a running state until interrupted manually by the user. The need to configure the loop volume in two places was not correctly documented in the help.
CM7-25156	PerkinElmer Autosystem XL GC: Chromeleon is currently not able to control or change the signal source of a channel. Such settings must be controlled by the user at the GC display and it must be verified that the channels are linked to the correct detector before the method is used for Chromeleon control.
CM7-25298	Perkin Elmer GC: Sporadically sequence interruptions are observed with an error message "No response from the GC". The reason seems to be an unstable serial communication. If this occurs, please contact your Chromeleon support desk for assistance.
CM7-25300	Agilent 7890: When used with certain LAN cards that are slow to initialize, the GC will sometimes fail to connect if the acquisition service is set to automatically start on system start. The workaround is to start the acquisition service manually, not automatically.
CM7-25343	Instruments: Third Party GC Drivers: Instrument Configuration Manager does not report mismatches between the hardware and the Chromeleon configuration.
CM6-23947	Shimadzu LC-10A, LC-2010: If the user cancels the keylock state of the front panel of the instrument and then, for example, stops a manual acquisition, this is likely to lead to unexpected effects during the next operation such as sudden abort of the sample run.

5.7 Other Limitations

ID	Description
CM7-11692	Console - Instruments: When monitoring the baseline with an overlay chromatogram added to the signal plot, the overlay disappeared after changing to a different ePanel and back.
CM7-15455	Studio - Processing Method: Without data in the first injection, it is not possible to select the 2nd or 3rd Detector for Dead/Delay Time.
CM7-15588	Discovery: The Discovery service failed to start if the PC name included non-standard characters. Now, the Discovery service will not crash and will log the PC name to help troubleshoot why it is not listed in the Console or Administration Console.
CM7-17203	Report Designer: With some date/time formatting settings in the report, the order of month and day changes for some formats automatically. The settings in the Report Template can change based on the windows regional settings. For example it is not possible to set m.d.yy as format with German regional settings. The Report Template replaces this with d.m.yyyy. The substitution occurs for report variables and non-report variable entries.

ID	Description
CM7-17465	Client: Studio: Processing Method - MS Settings: It can happen the spectral bunching value for Peak Dependent Correction that is displayed as an annotation on the chromatogram plot does not match the value entered in the processing method on the MS setting page. This is by design, because the method setting defines the maximum number of spectra for averaging. The actual number of spectra used is determined the number of MS spectra which fit the filter used for the chromatogram. This is not correctly documented in the Chromeleon online help.
CM7-17841	Report Designer: If using a non-Chinese format as the regional setting in Windows, and Chinese as the setting for Non-Unicode programs, then the header on a Chromeleon report is not correctly displayed for variables. If the format is changed to Chinese, then everything is correctly displayed.
CM7-17966	Online Plot: For the Vanquish CAD, some properties and two channels are recorded where the data is transmitted as aA, and scaled to pA with 6 digits resolution. The online plot displays these numbers for the current signal value with 2 digit precision only.
CM7-18252	Export MS Raw Data: When acquiring MS data, Chromeleon acquires MS data and all other signal data, such as UV, FLD, and pump pressure signals, in separate formats. As a result, when MS data is exported, non-MS data is not exported with the MS raw data file.
CM7-19336	Chromeleon 6 Import: Due to changes in Auditing between Chromeleon 6 and Chromeleon 7, when a Chromeleon 6 Sequence is imported into Chromeleon 7, some of the text displayed in the Instrument Audit trail will not appear exactly as it did in Chromeleon 6. Refer to the topic "Viewing Chromeleon 6 Data" in the online help for further information.
CM7-19836	Console - eWorkflows: The eWorkflows wizard fails with a message "Failed to retrieve the required Data Vault" when there is more than one Data Vault with the same name in the Chromeleon Domain.
CM7-20335	Comparison of Old Report Versions Shows Change in CmbxExportParameters: If a report which was created in Chromeleon 7.2 SR2 or earlier, and modified in SR3, has its history compared in SR4, the history will appear to show that the "Cmbx Export Parameters" value has changed from True to False. This is due to a change in the default value of this field, and does not represent any user-modification of the report.
CM7-20449	User Management: Login "Role" dropdown box becomes empty after upgrading to Chromeleon 7.2 SR4. This is due to the fix for CM7-18178 "Roles were offered in the Logon dialogue, even if they were not specified as Logon roles". To work around this issue, enable the "Logon Role" property in the user database for all logon roles that users need to be able to select.
CM7-21331	Studio – Reporting: The mass spectrum resolution report variable returns an internally used processing value instead of the resolution setting defined in the MS instrument method. It is recommended to discontinue use of this report variable until further notice.
CM7-21399	Console – Data Query: Injection Variables 'Auto Dilution Ratio' and 'Retention Time Standard': Auto Dilution Ratio and Retention Time Standard columns are not available in the custom filter conditions for injection records (e.g., in the IRC editor or summary report).
CM7-21780	Setup: NIST MS Search and Demo Library No Longer Automatically Installed: Incompatibilities of the NIST 2008 MS Demo Library installer with Window 7 and 10 could cause the main Chromeleon installer to hang or crash. To address this, the NIST Demo library, and the associated AMDIS and MS Search software are no longer automatically installed when you install Chromeleon. If desired, this package may be installed manually using the setup program found in the /Tools/ folder of the Chromeleon DVD. Alternatively, one may install AMDIS and MS Search using the full (licensed) NIST library installer. Note that MS library searching within the Chromatography Studio is not affected by this issue.

ID	Description
CM7-21783	Studio – Processing Method: Performance When Importing Fixed Calibration Standards for MS Sequences: When working with sequences of MS data, importing injections for use in a fixed calibration can take 1-2 minutes to complete, depending on the data.
CM7-22111	<p>Discovery: Mixed Installations with Chromeleon 7.2 SR5 Domain Controller: If you have an existing installation of Chromeleon < 7.2 SR1, the following limitations apply during an upgrade:</p> <ul style="list-style-type: none"> • Stations that have Chromeleon 7.2 or below installed will not see any data vaults or instruments that have been created with Chromeleon 7.2 SR5, until after those stations are upgraded to 7.2 SR5. • It is not possible for a Chromeleon 7.2 (and below) station to join a Chromeleon 7.2 SR5 domain. • Stations that have Chromeleon 7.2 or below will not receive any updates from the Discovery Service after the Chromeleon domain controller has been upgraded to 7.2 SR5, and will only see resources that were already in existence and cached. • Please refer to the Enterprise Documentation for guidance on upgrading an older installation of Chromeleon 7 to Chromeleon 7.2 SR5.
CM7-22145	Reporting: Discrepancy in “Last Modified” Time: Owing to differing rounding methods used, it is possible that the value of the "last modified" time for an object in a sequence has a difference of 1 second between the client display and the value shown in a report. For more details, please see the on-line help.
CM7-22738	<p>Client: Console: Empty Inject Time and GUID fields have been seen in a few single injections. Raw data have been successfully acquired and stored on the local Instrument PC. The Injection Audit Trail on the Instrument PC contains complete information, including the missing details. Too few instances have been reported to identify the root cause of this problem.</p> <p>Note: If you are affected by this problem, please contact your local Thermo Fisher representative for assistance with recovery of the missing injection details.</p>
CM7-22986	<p>During stress tests with multiple, very long sequences with more than 1000 injections, the queue was aborted with an unexpected error:</p> <p>"Queue End 24.12.2016 16:27:22 +01:00 Stopped the sequence queue run. Sequence End 24.12.2016 16:27:22 +01:00 End of sequence "Simple Vanquish Test 2016-12-21 19_37".</p> <p>Abort Error 24.12.2016 16:27:21 +01:00 The injection audit trail cannot be saved. Error detail: Die Transaktion wurde abgebrochen. The transaction commit operation failed. The save operation failed for data item(s) "'chrom://c-germoefelein/XVault/Vanquish-H/6/Simple Vanquish Test 2016-12-21 19_37.seq/277.smp/Audit.audit"'. Execution of txp [05f69eb4-c9ed-11e6-9598-005056c00008] failed. Error message : The command 'UPDATE CJ_VERSION SET VERSION_LAST_SIBLINGS_TXN_NO = @P0 WHERE CJ_VERSION.VERSION_INVALIDATE_TXN_NO > @P1 AND CJ_VERSION.PARENT_ID IN (@P2)' failed."</p> <p>So far the issue could not be resolved. As a workaround Thermo Fisher recommends disabling automatic upload when running very large sequences and uploading manually instead.</p>
CM7-23033	<p>Legacy Upload: With replication framework disabled, when trying to modify a sequence while the automatic upload is already in progress the upload may fail in very rare cases and it is not possible to remove the sequence from the instrument queue by retry of the upload. To recover the sequence a copy of the sequence has to be stored manually. Chromeleon 7.2 SR5 adds an audit trail entry to the manually uploaded sequence that refers to the original sequence so that traceability is ensured.</p> <p>Thermo Fisher Scientific recommends to enable the replication framework with Chromeleon 7.2 SR5 to avoid the problem.</p>

ID	Description
CM7-23051	<p>In a few cases Sequences have been reported to abort with messages in the audit trail that were not conclusive, such as:</p> <ul style="list-style-type: none"> • “The audit trail was unavailable for some time. Several audit trail messages are lost. They have been logged to the file "Dionex\Chromeleon\Log\AuditTrailMessages.log" in the (common) application data folder.” • “The injection audit trail / signal "...” cannot be saved. Error detail: The transaction has aborted. The transaction commit operation failed.” <p>However, the SQL Server ERRORLOG files of the affected Instrument Controller PCs revealed errors due to slow file operations on the local hard drive. Thus it is assumed that these failures were caused by poor disk drive performance. Chromeleon 7.2 SR5 introduced additional internal error reporting so that similar errors can be identified more easily in the future.</p>
CM7-23099	<p>Third Party Drivers - Setup: The Microsoft Visual C++ 2005 Run Time component is no longer supported by Microsoft. However, this component is required for the Shimadzu LC-2010A and Shimadzu LC-10A/20A/30A drivers and is therefore installed by Chromeleon.</p> <p>If you don't use these drivers, it is possible to uninstall the Visual C++ 2005 Run Time component from the 'Programs and Features' page of the Windows Control Panel. Alternatively, during the installation of Chromeleon, it is possible to suppress the installation of the Visual C++ 2005 Run Time component by using a response file and excluding the "__MicrosoftVisualC2005_SP1__" package. Please refer to the Installation Guide for details.</p> <p>Several of the Shimadzu devices can be controlled by obtaining an updated driver directly from Shimadzu (see the "List of Supported Instruments" for details).</p>
CM7-23484	<p>Reporting: In order to display the last updated date and time for a locked injection it is necessary to use the Chromeleon report formula <code>procMeth.version.time</code>.</p>
CM7-23740	<p>Query: When searching for injections by date using the operator "Is Not During Previous", the query result would also return injections created/modified during the current day.</p>
CM7-24042	<p>Instrument Configuration Manager: The .NET 4.7 framework is installed by Windows Update. For Windows 7 it is a recommended update, but for Windows 10 it is a mandatory update. This release of Chromeleon has been validated against .NET 4.7. However, under rare circumstances, the installation of .NET 4.7 could lead to malfunctioning or crashes of the instrument configuration manager or configuration plug-ins. If this occurs, please contact your Chromeleon support desk for assistance in correcting the problem.</p>
CM7-24058	<p>Client: Console: The new eWorkflow option "Preserve Layout", introduced in Chromeleon 7.2.6 is not backwards compatible with older versions of Chromeleon. If a client with an earlier version attempts to open an eWorkflow for which this option is enabled, the error message "Cannot load, as the data was created with a newer Chromeleon version." Is displayed.</p>

ID	Description
CM7-24706, CM7-25325	<p>Installation of KB4041083 "Security and Quality Rollup for the .NET Framework 3.5.1, 4.5.2, 4.6, 4.6.1, 4.6.2, and 4.7 for Windows 7 SP1 and Windows Server 2008 R2 SP1: September 12, 2017" on a PC with the Agilent ICF framework will cause the Chromeleon Instrument Configuration Manager to crash.</p> <p>To resolve this issue, uninstall KB4041083. This may require reinstallation of one or more of the following KBs, depending on what .NET versions were originally installed on the PC:</p> <ul style="list-style-type: none"> -KB4040973 for .NET Framework 4.6 or newer -KB4040977 for .NET Framework 4.5.2 -KB4040980 for .NET Framework 3.5.1 <p>If .NET Framework 4.7 was originally installed, please uninstall both KB4041083 and .NET 4.7, reboot, then install .NET 4.7 from the Windows updates and reboot again.</p> <p>Note that the same issue can be caused by installing KB4043766 "Quality Rollup for .NET Framework 3.5.1, 4.5.2, 4.6, 4.6.1, 4.6.2, and 4.7 updates for Windows 7 SP1 and Windows Server 2008 R2 SP1: October 17, 2017) and any .NET Security and Quality Rollup released since September 2017.</p>
CM7-24722	<p>Print/Export: With the "Export report" option enabled for the Queue, export for each injection sometimes fails.</p>
CM7-24972	<p>Nested Autorepeat: When applying a two level Autorepeat rule with double grouping to a plot object, if the sequence contains a large number of injections and a large number of components, it is possible that software performance will degrade significantly. This has been observed when applying Autorepeat to an MS Components plot for a sequence with 27 injections and 292 components.</p>
CM7-25321	<p>eWorkflow Editor: Under some scenarios, an eWorkflow is immediately marked as "changed" after opening (i.e., the "Save" button is enabled). These changes are internal updates related to metadata like injection volume range, available positions, and available methods. If these changes result in invalid values for the user-editable fields volume, position, or instrument/processing method, they are also updated.</p>
CM7-25334	<p>Client: Console: Data: Using the Merge option when re-importing a cmbx file can result in the deletion of Sequences which were created since the cmbx was created.</p>
CM7-25392	<p>eWorkflow - import (*.ewfx) file: After importing an eWorkflow, the audit trail may contain an additional "changed" entry, although the user didn't make any changes.</p> <p>This is due to Tags in the eWorkflow that are not present in the destination domain being removed.</p> <p>Note that the user can also edit the tags during import; these changes would be included in the same audit trail entry.</p>
CM7-25463	<p>Upload: In very rare cases, an upload may hang. The issue has been seen under high load when using IRC to create additional channels.</p> <p>Workaround: Cancel the upload and use the "Manual Move" command</p>
CM7-25480	<p>Client: Console: Data: If a Data Vault is unavailable, it is not shown as collapsed in the data explorer tree despite its sub-folders and items being inaccessible.</p>
CM7-25508	<p>Upload: In very rare cases, an upload may succeed, however the sequence remains locked (redirected to the Xvault).</p>
CM7-25551	<p>Import/Export: If two (or more) users simultaneously attempt to export a Sequence to the same location, a "Cannot export <sequence_name>" error is displayed for all.</p>

ID	Description
CM7-25586	Client: Studio: Reporting: In Chromeleon 7.2.8, reporting is now performed by a separate 'background' process on the Chromeleon Client or IPC where the Sequence was added to the queue. The Windows session on this computer must remain logged-in until reporting has completed. If the user logs out of the Windows session, the background process will be exited and reports will not be generated for any queued or acquiring Sequences. The user needs to be aware of this, especially when running a Chromeleon Client on a Windows Terminal Server session, as no warning is given if the user logs out of Windows with Sequences configured for post-injection or post-sequence reporting still in the Instrument Queue.
CM7-25590	Client: Studio: Chromatogram Plot: When creating a Virtual Channel, the Power Factor only increments in steps of 0.5, which does not provide sufficient flexibility for controlling the scale of the extracted data.
CM7-25633	Services: In very rare cases if the Oracle database disk is running out of disk space and in addition an IPC cannot be connected properly, it may happen that a sequence cannot be uploaded automatically. When trying to reboot the IPC a retry of the upload may result in an error message "A transaction package is missing on the hard disk. The order of transaction packages which should be sent to the network data vault can't be accomplished." The sequence can't be removed from queue automatically. It needs to be removed manually.
SWFR-248	The following limitations apply to the import of data from Waters Empower: <ol style="list-style-type: none"> 1. Time zone information is not supplied by the Waters toolkit API, so dates and times will be imported as if they were local. 2. Empower allows injections that are not contained in sample sets. These are not visible to the importer and cannot be imported unless added to a sample set. 3. Some peak results fields show incorrect units in Chromeleon since there is currently no mechanism to change the units on 'core' fields. They are included correctly in custom fields that by default are hidden.
SWFR-2543	Sampling Devices That Do Not Use μL As Units for Volume: Although most liquid injection devices expect volumes to be entered in μL , there are a few devices (e.g. Thermo AS-HV and PerkinElmer GC Autosampler) which do not use μL as their default volume unit. If one of these devices is configured in the same instrument that also includes an injection device that uses μL , problems may be observed with volume validation in the sequence table as well as units associated with volumes in reports.
CM6-23886	Exception Error When Removing USB->COM Port Adapter: If a USB-to-RS232 adapter is used to provide COM communication between an Instrument PC or 247 Instrument Controller and an instrument, and the USB connection is unplugged, Chromeleon reports a Fatal Error in the Instrument Audit trail. The USB-to-RS232 adapter should not be disconnected from the Instrument PC or 247 Instrument Controller while it is powered-on.

5.8 Obsolete Drivers

Chromeleon includes a number of obsolete drivers in order to provide backward compatibility of existing installations:

- Agilent/HP 1200 HPLC System
- AI 1310/3000 GC Sampler - 10ul
- AI 1310/3000 GC Sampler - 5ul
- AI 1310/3000 GC Sampler - 5ul - 155 Vials
- AI 1310/3000 GC Sampler - 5ul - 105 Vials

- AI 1310/3000 GC Sampler - 10ul - 155 Vials
- AI 1310/3000 GC Sampler - 10ul - 105 Vials
- PAL Sampler for GC
- PAL Sampler for LC
- TRACE 1300 Series GC (First generation driver that has been superseded by TRACE 1300 Series GC II driver)

Please note that issues reported for any of these drivers will no longer be addressed. If you are using one of these drivers Thermo Fisher Scientific recommends migrating to a supported driver as soon as possible.

5.9 Functional Differences between Chromeleon 7.2 and Chromeleon 6.8

Chromeleon 7.2.8 implements the vast majority of Chromeleon 6.8 features, and in general, has a richer feature set than Chromeleon 6.8. However, a few Chromeleon 6.8 features remain to be implemented on the Chromeleon 7 platform and a few will never be implemented, since they are now obsolete or no longer relevant. If a particular missing feature is important to you, please contact your local Thermo Fisher Scientific representative to find out if that feature is in the product development plans.

6 Backward/Forward Compatibility Issues

6.1 Thermo Scientific Vanquish Charged Aerosol Detector [CM6-23499]

Any Instrument Methods created for the Vanquish Charged Aerosol detector with Chromeleon 7.2 SR2 MUa and earlier may need to be updated due to changes in the driver introduced in Chromeleon 7.2 SR2 MUb.

6.2 Thermo Scientific Vanquish Autosampler [CM6-23405]

Any Instrument Methods created for the Vanquish Autosampler containing the WashSpeed property will need to be updated. The WashSpeed value needs to be divided by 0.06 in order for the Instrument Method to work correctly.

6.3 Thermo Scientific TriPlus RSH

The current driver for this instrument is incompatible with firmware older than version 2.4.

6.4 Thermo Scientific TriPlus 300 HS

The current driver for this instrument is incompatible with firmware older than 2001.9.0.

6.5 Thermo Scientific TriPlus LS-100

The current driver for this instrument is incompatible with firmware older than version 2.4.

6.6 Thermo Scientific TSQ Quantiva

The driver version 1.1 QF1 for this instrument, included in this Service Release, may not be compatible with existing TSQ Quantiva mass spectrometers running driver version 1.0 without a hardware update. Please contact your local MS service engineer before attempting to upgrade the unit.

Note: New TSQ Quantiva modules from the factory are not affected by this issue.

6.7 Thermo Scientific TSQ Quantiva and Endura

The driver version 1.1 SP1 for these instruments may not be compatible with existing TSQ Quantiva and Endura mass spectrometers running driver version 1.0 without a hardware update. Please contact your local MS field service engineer before attempting to upgrade the unit.

Note: New TSQ Quantiva and Endura modules from the factory are not affected by this issue.

6.8 TSQ Quantiva and Endura Instrument Method [CM7-18759]

Instrument methods created with older versions of the TSQ Quantiva and Endura instrument method editor cannot be opened with newer versions of the method editor. If a large number of instrument methods have already been created for regular use, upgrade of the TSQ Quantiva and Endura driver is not recommended. Contact your local Thermo Fisher Scientific representative for additional details.

6.9 Signed Sequences [CM7-16374]

Sequences that have been signed within Chromeleon 7.2 SR1 will fail verification after copying within later versions of Chromeleon 7.2 CDS.

6.10 Chromeleon Enterprise Compatibility of a Chromeleon 7.2 SR5 Domain Controller with Newer Versions of Chromeleon Clients and Instrument Controllers

In general, it is possible for a Chromeleon Enterprise with a domain controller running Chromeleon 7.2 SR5 (MUa, MUb, MUC or MUD) to work with instrument controllers and client PCs running newer versions of Chromeleon (7.2.6, 7.2.7, 7.2.8).

For customers with a fully validated Chromeleon 7.2 SR5 system, we would not recommend connecting clients or IPCs with a later version of Chromeleon installed.

However, should you choose to create a 'mixed' Chromeleon environment, the following restrictions apply:

Opening Processing Methods Created on Newer Versions on an Older Client

These processing methods may be opened, edited and saved without losing any parameters specific to the newer version. However, the new parameters will not be applied to data processing, will not be accessible as report variables and will be completely 'invisible' on the older client. The new parameters include:

- Peak Identification by Reference Mass Spectrum
- Time based specification of the Cobra Wizard the integration parameters 'Smoothing Width', 'Baseline Noise Range' and 'Consider Void Volume'
- UV Spectrum Search Across Multiple Libraries
- Variable Amount ISTD quantitation Based on Ratio (Response) vs Ratio (Amount)

Enterprise Functionality Specific to Newer Chromeleon Versions

Features such as email notification, automated results export, post-sequence reporting with Chromeleon Client closed, and Chromeleon XPS will not function, even if accessed from a client running a newer version of Chromeleon.

Support for Instrument Control Specific to Newer Chromeleon Versions

In general, it is possible to control these instruments. However the following restrictions apply:

- The instrument controller PC must be running the newer version of Chromeleon
- Older client PCs will not be able to create, edit or view instrument methods for the new driver
- Older client PCs will not be able to view ePanels related to the new driver
- Some instrument view toolbar items such as 'Consumables' and 'Troubleshooting' may be disabled (or have fewer sub-options) on the older client.

- Older client PCs will not be able to perform manual tuning or do real-time scanning for remote mass spectrometers

Additional restrictions may also apply. If you have any questions or concerns, please contact your local Chromeleon support channel.

7 Appendix

This chapter contains general information about Service Releases, Release Notes, Online Help, and Contributed Content.

7.1 Release Notes

The Release Notes list the new features and improvements of the current release. Included in these Release Notes are all of the functionality and bug fixes from Chromeleon 7.2 SR5 MUA, Chromeleon 7.2 SR5 MUB, Chromeleon 7.2 SR5 MUC and Chromeleon 7.2 SR5 MUD. For details about Chromeleon 7.2 SR5 and other previous releases, refer to the relevant release notes which can be found on the Chromeleon 7.2.8 DVD.

7.2 Online Help

In general, new features, updates and drivers that are introduced with this release are described in an updated Online Help that is distributed with the release.

7.3 Contributed Content

The Chromeleon 7 disk contains a folder titled Contributed Content. This folder contains:

- Demonstration Material
- Localized Documents
- Localized ePanels
- Localized Report Templates
- eWorkflow Templates
- User Management Example
- Charlie Mouse Pointer

Note: The files in the Contributed Content folder have not been tested and validated according to Thermo Fisher Scientific Software Development Cycle guidelines modeled after ISO 9001:2008 standards. Thermo Fisher Scientific assumes no responsibility for any errors that may appear in the content provided in the Contributed Content folder.

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