



## What's New in v25





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### General Upgrade Information

After an upgrade, the following tasks are recommended:

1. **Run the CM4D Results Database Utility.** This checks for any new or updated stored procedures and will perform any pending schema changes to the Results database. This utility does not change your data. For instructions on running the database utilities, please refer to [ATS-HELP.com](http://ATS-HELP.com).
2. **Run the CM4D Site/DataSource Database Utilities.** These utilities should only be run for CM4D version *upgrades with a Schema change*. If there is a Schema change for either the Site or CM4D DataSources, it will be listed with the General section for that version in this document. For instructions on running the database utilities, please refer to [ATS-HELP.com](http://ATS-HELP.com).

**Note:** Additional migration tasks may be required where outlined in the release details for each version.



## v25.3

## General Information

- Schema Update - 25c-25f

## ATS Software Prerequisites and Compatibility

This version of CM4D requires **ATS Security 1.10** or higher. Upgrade to this minimum version of ATS Security before upgrading to CM4D 25.3.

## Results Database Migration

If you are upgrading a Results database from 25.2 to 25.3 you may need to run a new database utility called **Data Command Generator** that is included in the 25.3 CM4D Server installer. This version introduces a new column in the Routines table of the Results database, so upgraded Results databases may have an empty GUID for DataSourceID. Because of this, Routines will not load properly in Peruse and you will see a warning message when searching for data in Peruse.

The Data Command Generator is installed with CM4D Server in the `.\\CM4D\\Database Utilities` folder. Run the utility on the CM4D Site database to trigger a transfer of the required Routine information from the CM4D database to the Results database via Results services.

Check the Routine table in your Results database to confirm the missing GUIDs, then run the Data Command Generator to trigger the transfer of the IDs from the CM4D database.

SQLQuery3.sql - ATS...(cm4dservice (60))

```
SELECT TOP (1000) [CreateDate],
[UpdateDate],
[RoutGuid],
[ParentId],
[RoutLabel],
[DataSourceId]
FROM [cm4dresults].[dbo].[Routines]
```

Data Source IDs: 00000000-0000-0000-0000-000000000000

	CreateDate	UpdateDate	RoutGuid	ParentId	RoutLabel	DataSourceId
1	2023-01-25 16:09:45.2697203	2023-08-25 17:42:04.2703765	0FC48DAA-36BC-416D-B17F-002A6756A8BB	3B7A26E0-2E17-452A-A9B2-F31EAE60DAE	X500 Wing RH Rib 04 Aft	00000000-0000-0000-0000-000000000000
2	2023-07-19 19:30:43.2951821	2023-07-19 19:30:43.2953476	F54820D1-F24C-4FCD-B137-01368441736B	00000000-0000-0000-0000-000000000000	Silo	00000000-0000-0000-0000-000000000000
3	2023-07-19 19:22:59.8850491	2023-07-19 19:22:59.8852015	AAD668C3-220A-449E-BB85-0244CB7620A5	00000000-0000-0000-0000-000000000000	FT 4.5 Hinge RH 912	00000000-0000-0000-0000-000000000000
4	2023-01-25 16:09:45.3656459	2023-08-25 17:42:05.1057920	A7A1261A-F196-407C-94ED-0398D22E0A34	5EA1290A-29D5-4308-A7A3-B6558500577C	X600 Fuel Tank RH Outer	00000000-0000-0000-0000-000000000000

## DataSource Permissions - Peruse

User permissions are now required to access data in Peruse, based on the DataSources permitted by the assigned user role.

## CM4D Web Decprication

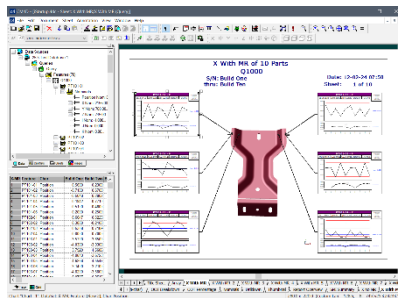
The web application CM4D Web is now fully deprecated from the CM4D products. The functionality previously found in CM4D Web is now found in the following:

- **ATS Reporting** (plugin for ATS Configuration Manager) - Access to **on-demand report generation** and **printed scheduled reports**.
- **CM4D Classic** - Managed Report Administration - **Create or modify Managed Reports** for CM4D Scheduler directly from CM4D Classic.
- **CM4D Configuration** (plugin for ATS Configuration Manager) - **Subscribe to Events** or manage SMTP settings.

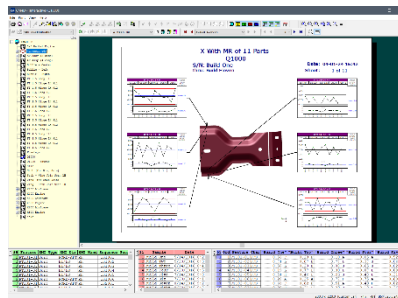
## New Features in Peruse

### Layouts

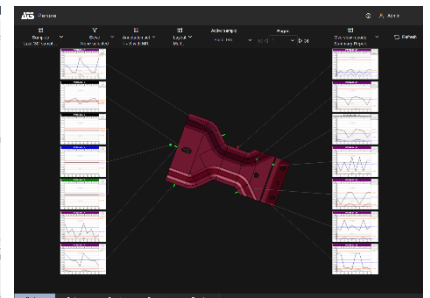
Automated annotation placement with leader lines around the 3D model (like AutoReports in CM4Dc or Reports in CM4Di) is now available in Peruse. These layouts must be configured by an Administrator, and include options for annotation placement, count per page, etc. Layouts in CM4D Peruse are comparable to Auto Reports in CM4D Classic and Reports in CM4D Interactive, but with some functional differences.



Auto Reports in CM4D Classic



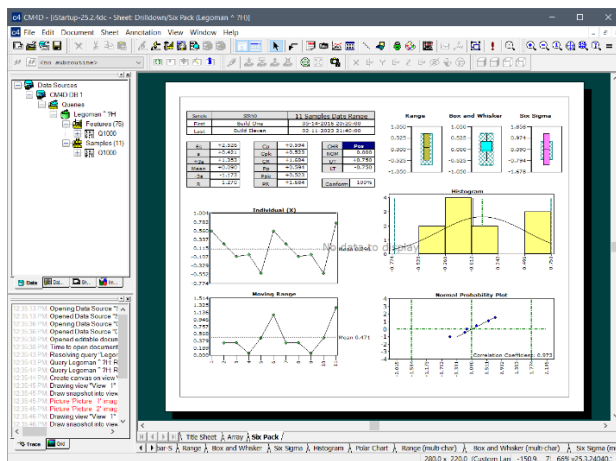
Reports in CM4D Interactive



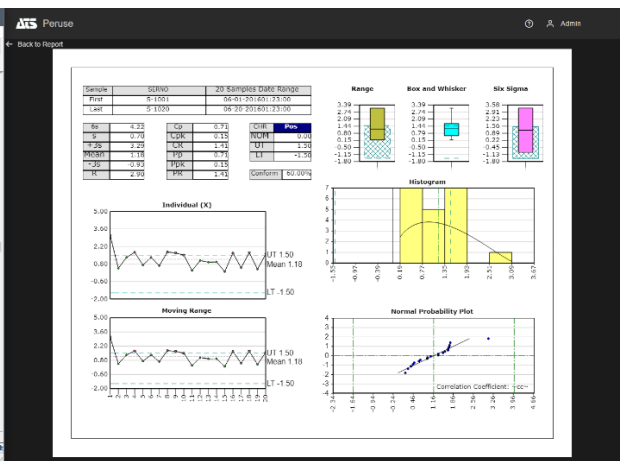
Layouts in CM4D Peruse

### Drilldown Reports

Single page reports (like Drilldowns in CM4Di) are now implemented in Peruse to display data for a single Process. These are sheets exported directly from CM4D Classic and imported to CM4D Config by an Administrator.



Sheets set up in CM4D Classic (Left) are exported and used as Drill down reports in CM4D Peruse (Right).



### More Supported Variables

Additional CM4D variables are now supported for use in Peruse annotations and reports, including Cpm, Cpk A/B, displayed samples, and LCL/UCL with primary/secondary modifiers. Peruse has the following restrictions for variables:

- Variable Expressions:** Variable expressions are not supported in Peruse. In CM4D, you can use a variable expression to resolve the feature direction for the value of that expression. For example, if the expression in CM4D is  $\{^{\wedge}abs(\sim mean \sim)\}$ , the feature direction is resolved based on absolute value of the mean.



- **DataSet Variables:** DataSet variables (e.g. `~dataset,conformcount~`) resolve the same as the non-DataSet (`~conformcount~`) variant. All variables are calculated only for the selected processes/features/results.

## Subgroups

Subgroups are now included in the Results database; subgroup data is used to calculate results and graph types requiring subgrouping are now supported for Peruse annotations. Subgroups settings for the Results database are set on the Managed DataSource and can be configured at that level or further defined for each Routine.

## Graph Types

Additional graph types are now supported for use in Peruse (XBar & R, XBar & S, Six Sigma, Pareto, Normality, Range). Includes support for the "Show Table" option for Process Control graphs (X-MR, MA-MR, XBar & R, XBar & S).

## Load Active Sample via Query String

The Active Sample identifier is now included as part of the Routine string in the Peruse URL. This allows links from external reports (like PowerBi) the option to load a specific Sample in Peruse.

## Updated UI Design

Some changes to improve usability have been implemented for the user interface and menus.

## DataSource Search Filter

A default filter option has been added that lets you pick one or more CM4D Managed Datasources to narrow your search when searching for data in Peruse (like Routine Filters).

## New Features in CM4D Configuration (Plugin)

### EventSmith

All EventSmith configuration and management is now available in the CM4D Configuration plugin.

### DataSmith Batch

UI changes to the job properties to improve usability have been implemented. The DSBatch job properties are now distributed in a number of tabs, allowing for quick navigation between options.

### DataSmith Batch Proxy Agent

The DataSmith Batch Proxy service is now a Proxy Agent, a self-registering service endpoint to communicate with the CM4D API hub in real-time.

## Supporting Language Packs for Peruse

Language packs can now be imported for the CM4D Peruse UI.





## Bug Fixes

AREA	DESCRIPTION	TICKET #
Classic	Cross leader line still cross when check for Uncross Leader line in CM4D Classic <b>Workaround:</b> If you have documents showing this issue after upgrading to 25.3, select all annotations on the sheet, right-click and select <b>Report Tweak &gt; Uncross</b> from the menu (do not create a new ReportTweak report). Save the document.	INC61566

## Known Issues

The following are minor known issues that you may want to be aware of. These issues will likely be addressed in a subsequent patch release.

AREA	KNOWN ISSUE
Peruse	Page zoom breaks leader lines
	DataSet variables (e.g. ~dataset,conformcount~) resolve the same as the non-DataSet (~conformcount~) variant
	Variable expressions are not supported in Peruse
	Difference in the positioning of the components within Annotation Properties on a Graph
	Handling lines offset in DrillDowns and Chart
	Drawing issue on graphs
	Samples shown in different Bins when drawing the Histogram graph type
	Implement Feature direction in Peruse
	Implement default filters in Peruse
	In Report first and last characteristic can be 'random'





## v25.2 Hot Fixes

### Hot Fix 1

#### Program Fixes

APPLICATION	CORRECTED ITEM	REFERENCE
CM4D INI	Feature Label Details are not captured in Site database. <u>Solution:</u> Added an option to enable the deprecated Event Scope for DataSet Events in order to allow scope definition that provides missing details. Previously removed functionality can be enabled if the parameter „USEEVENTSCOPE“ is added to the [Defaults] section of the Cm4d.ini file. Values are 0 (OFF) or 1 (ON).	INC71310
Results Sender	Some changes to the Results Services appsettings to allow for custom deployments. See the help documentation <a href="#">here</a> for details on service configuration.	

## v25.2

- CM4D Schema: 25b-25e

### New Features

#### CM4D Peruse Enhancements

##### Home Page Routine Filters

Filters are now available on the starting page of CM4D Peruse. At this time, buttons are displayed for filtering by CM4D Managed DataSource, as well as any configured Routine filters.

##### Graph Annotation

Annotation templates used for the Annotation Sets introduced in the previous version have been expanded to support some graph types. Additionally, the annotation templates are now used as Reports.

##### CM4D Variable Support

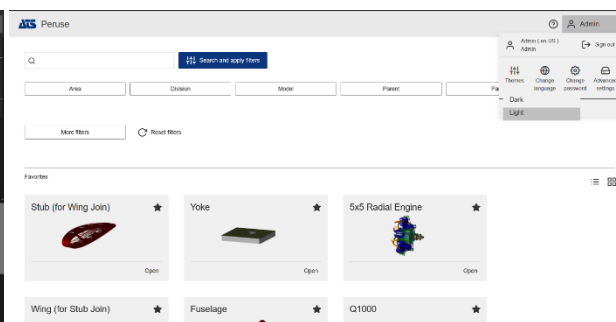
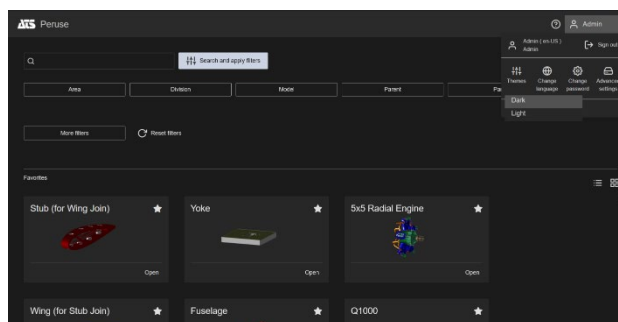
The CM4D variables supported for use in CM4D Peruse annotations has been expanded to include nearly all CM4D variables, with a few exclusions (specified in the documentation).

##### Subroutine Support for 3D Models

Subroutine information stored in the Results database now includes references to any 3D models associated to its parent Routine(s). Duplicate models are not generated or stored.

##### Updated User Interface

The appearance of CM4D Peruse has received a cosmetic update to make the interface more visually pleasing with better contrast. Two themes are available for the user to select a preference, either Light or Dark.



#### Results Database - Exclude Routines by Label or Routine Filter

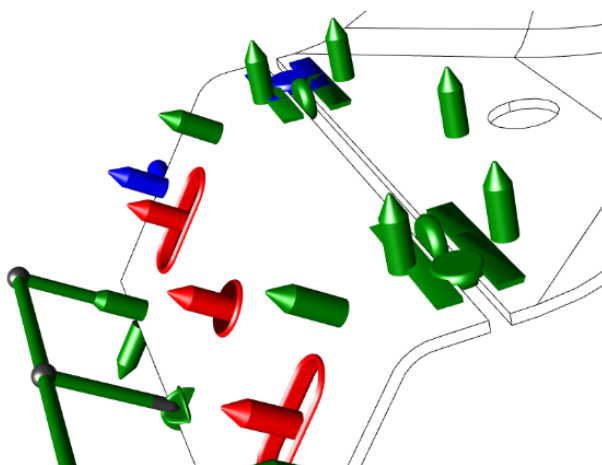
A configuration option has been added to CM4D Managed DataSources in the CM4D Configuration plugin which allows you to select which Routines, if any, are to be completely excluded from the data transfer. In addition to selecting Routines by label, you can use Filter arguments to designate Routines for exclusion. The filter builder is only available if the selected Managed DataSource has Routine Filters configured.

## Results Services - Specify Managed DataSource

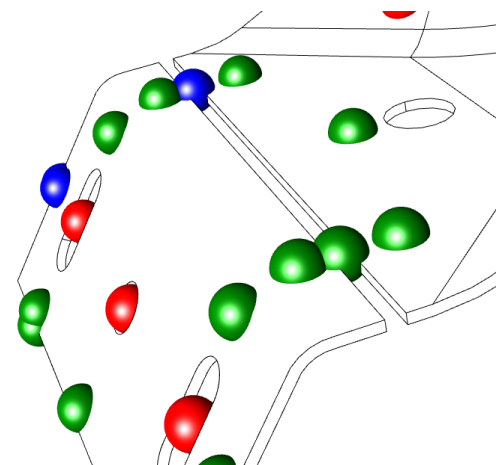
The Results Sender service processes the database changes in CM4D for export. Distributed installations with databases in different regions that are organized within a single Site may cause inefficiencies. For example, if a Results Sender service in Europe processes changes for a database in Asia. A configuration option is now available which allows you to restrict a Results Sender instance to process only specified Managed Datasources. It is possible to configure a datasource by DataSource label or to specify a Site and include all Datasources within that Site. The Results Sender *appsettings.json* file has a configuration setting "ProcessDatasources" that takes an array of definitions.

## Spectrum Functionality Restored

Original CM4D functionality, View Spectrum, is returned using the HOOPS 3D engine upgraded in the initial release of v25. While most of the configuration options have returned as they were in v24 and earlier, the arrow type 'Label' has been deprecated.



 Spectrum Type: Color with multiple Feature Types (Feature Mode - Feature Specific)



 Spectrum Type: Color with multiple Feature Types (Feature Mode - Sphere)

## Security and Configuration Manager Enhancements for CM4D Databases

Some enhancements have been added to the CM4D Configuration plugin.

### Synchronize Users, Groups and Access Privileges with Site Manager

A tab has been added to the Site Settings section of the CM4D Configuration plugin which lets you synchronize security and user information between ATS Security Manager and CM4D Site Manager. The synchronized data includes users, roles (groups) and rights (privileges).

### Generate New or Update Databases

The three database types used by CM4D - Site, CM4D, Results - have some degree of automation available when managed via the CM4D Configuration plugin. Each of these database types have options for both creating new databases or updating existing databases to the latest schema.

Alternately, you may choose to run the update scripts manually in SSMS (legacy method) or run the corresponding Database Utility (see next section).



## Database Utilities

Creating and updating databases for CM4D can be a lengthy process when done manually, so we have provided tools with the CM4D Server and CM4D Results Services installers to make this type of database maintenance easier. Instead of locating the scripts and running each script individually on each database (and in the right order), you can simply run each tool and select an action.

- **Create or Upgrade a Site Database** - Use for new installations or version upgrades.
- **Create or Upgrade a CM4D Database** - Use for new installations, version upgrades, or creating additional databases.
- **Create or Upgrade a Results Database** - Use for new installations or version upgrades.
- **Replace Database GUIDs** - Use after copying a database (i.e., restoring a backup).
- **Generate User Roles** - Use to pull user/group information from the CM4D Site database for transfer into ATS Security.

## Docker Image Support for the following CM4D Services

The following ATS CM4D modules support Windows or Linux Docker deployments:

- CM4D Configuration Plugin and CM4D API
- CM4D Peruse
- CM4D Results Services (Results Sender, Results Loader, StreamCacheSmith)
- CM4D Upload Portal (Upload Portal, DataSmith Translator)

The available docker images can be found on the [ATS Product repository on Docker Hub](#).

## EventSmith SMTP v2

EventSmith SMTP has been upgraded to a separate installer and now supports password encryption by using NServicebus with SQL Transport infrastructure with queue tables created by the services in the Site database. The new EventSmith services (EventSmith Mailer and EventSmith Queue Processor) are a separate installer in order to allow for flexible deployments. CM4D creates event entries in the table EventQueue in the Site database, which are then picked up by the EventSmith services for processing through the Processing Queue and Mailer tables.

### Upgrade Steps:

1. Stop CM4D Services, particularly EventSmith SMTP and DataConnect.
2. Uninstall CM4D Server.
3. Install CM4D Server v25.2.
4. Install EventSmith SMTP V2.
5. Run Site Manager and check the EventSmith SMTP Settings. If using SSL, the Authentication user name format should be the user name only (e.g., *mjones*), without either domain (e.g., *ats-global/mjones*) or email (e.g., *martha.jones@ats-global.com*) formatting. This format requirement is a temporary [Known Issue](#) and will be fixed in a subsequent hot patch.
6. Optionally, depending on your setup, configure the new EventSmith Services (Mailer and Queue Processor) to run as your preferred user (e.g., *cm4d\_service*).
7. Start the EventSmith Services.

EventSmith SMTP Settings

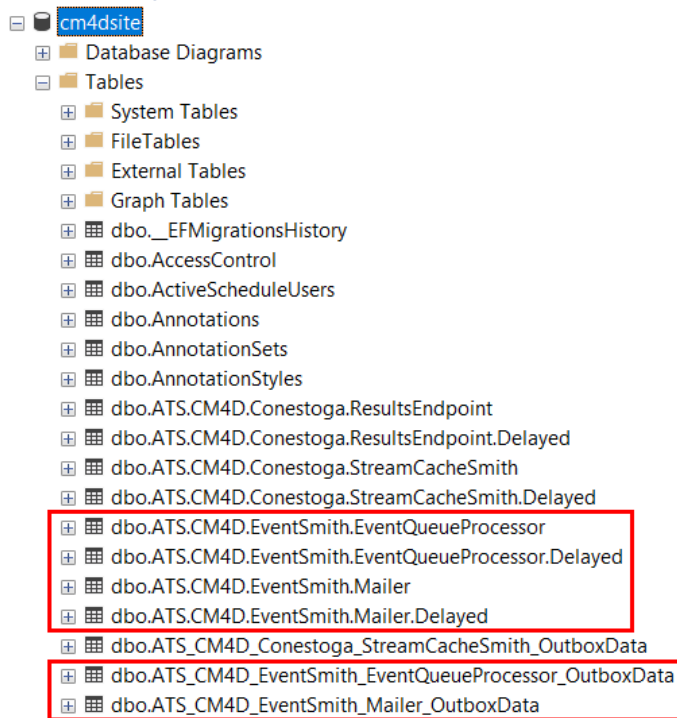
Server

SMTP Host: webmail.domain.com

Sender

Username: mjones Pass

8. Check the CM4D Site database for 6 new tables. If these tables are not created, check the user running the services.



## Program Fixes

APPLICATION	CORRECTED ITEM	REFERENCE
CM4Dc	Classic and Interactive show a different 'Last Sample'.	INC54241
	CM4D Classic Cpk score anomaly	INC31603
CM4Di	CM4D Interactive does not properly refresh the pages when switching active sample.	INC54563
	CM4Di Feature Grid Show All Rows does not work when you first use keep selected for some features	INC33975
	Sample labels are not displayed in the CM4Di grid. The reported issue was primarily a setup issue. A conformance summary with "Evaluate on current process only" makes sense only if the features have the same baseline setup. In the reported case, the features with 'missing' sample labels had a different baseline. Fixing the definition of the report solves the problem. but this version contains a modification that displays Sample labels even in cases where "Evaluate current process only" is used in the setup.	INC31102
	Auto Resize Image View in CM4Di	INC37335
	When unchecked Unload Last Query to Save Memory not restoring the settings done for the previous routine	INC33978
DataSmith	DataSmith loses last line for Excel data	INC31650
DataUtility	Orphan Actual data remains after Sample deletion.	INC49759
	DataUtility toolbar DataSource button disappears. <i>Solution: Support for DataUtility was added to the Reset BarState command line.</i>	
EventSmith	The settings files contain unencrypted passwords. <i>Solution: See new feature, <a href="#">EventSmith SMTP v2</a> on page 12.</i>	



### v25.1 Hot Fixes

#### Hot Fix 3

APPLICATION	CORRECTED ITEM	REFERENCE
<b>CM4D Results Database Utility</b>	Samples and Results are not loaded when loading a Subroutine in CM4D Peruse.	

#### Hot Fix 2

APPLICATION	CORRECTED ITEM	REFERENCE
<b>CM4D Classic</b>	Uncross Leaders In CM4D Classic are not uncrossing	INC48082
<b>CM4D Interactive</b>	Special features in CM4D Interactive are pointing to wrong location	INC47891

#### Hot Fix 1

APPLICATION	CORRECTED ITEM	REFERENCE
<b>CM4D Classic</b>	Grouped charts with the Expand Feature Characteristics or Expand Reference Features options enabled are not drawn properly.	
	View Property "Uncross Leader" becomes enabled after running Auto Report.	INC46693
<b>CM4D Interactive</b>	When the Cm4d.ini option HIDEEMPTYLEGS is enabled, the empty nodes remain visible in the yellow Nav tree.	INC32309

**v25.1****New Features****CM4D Template Performance**

With the introduction of the HOOPS 3D Engine in v25.0 there were some cases where large templates with many views experienced a performance decrease. In order to improve the template performance, all Views in a document are treated as a 'snapshot' or a static image until the view is manipulated in some way (zoomed, rotated etc.). This eliminates unnecessary rendering of models and feature markers. Views retain the single-click behavior in that unlocked views can be selected to be moved on the sheet and the right-click context menu can be accessed the same way as before. There are still options in the Document Setup dialog for selecting a Resolution and manually updating the views for an entire document at once instead of an as-needed basis.

This change has altered the previous "View Snapshot" functionality. Snapshot mode is not enabled/disabled in a document, rather it has become an integrated part of view functionality which supports full modification of views and automatic regeneration of snapshots whenever necessary to improve processing speed of CAD models.

**Results Database Reloaded**

The Results database and supporting services have been optimized to support faster reporting and scalable data transfer between the Results and CM4D databases. Stability and performance has been improved by eliminating the use of the Message Queue (MSMQ) to communicate between clients and the server database. The Results Sender and Results Loader services use NServicebus with SQL Transport. The queue tables are created in the Site database. The initial transport for NServiceBus is SQL Server but other transports like Azure Storage Queues will be added in the future, in order to support a local CM4D implementation and a cloud Results database.

In addition to performance/stability improvements, we have also enhanced the Results database by adding support for more CM4D data to be made available in the Results database.

- ▶ Constructed Features
- ▶ Tolerance 2
- ▶ Reasonable Evaluation
- ▶ Causes – Masked Data and Comments

**Results Services**

The CM4D Results Services include Results Sender, Results Loader and StreamCacheSmith. The Results Services are a separate installer in order to allow for flexible deployments. CM4D creates entries in the table ResultsExportCommandQueue in the Site database. Results Sender then reads the entries from the Command Queue, gets the data from the CM4D database(s) and creates messages on NServiceBus for the Results Loader service. The Results Loader service processes the messages and updates the Results database.

**Database Utilities**

Creating and updating databases for CM4D can be a challenge, so we have provided four tools to make this database maintenance easier. Instead of locating the scripts and running each script individually on each database and in the right order, you can simply run each tool and select an action.



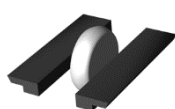
1. **CM4D Site Utility** – Run all necessary scripts on an empty Site database or upgrade a Site to either v24 or v25. Connection information is obtained from the CM4D.4ds file (via DbConnect).
2. **CM4D Datasource Utility** – Run all necessary scripts on an empty CM4D Datasource database or upgrade a CM4D Datasource to either v24 or v25. Connection information is obtained from the connection string entered in the utility command window.
3. **CM4D Results Utility** (formerly 'DbMigrator') – Create an entirely new Results database, create the tables for an empty database or upgrade from a previous version. In cases of upgrading, the tool automatically detects the existing database tables and adds or changes tables as needed. Connection information is obtained from the Site database (via SiteManager).
4. **GUID Replacer** – The GUIDS for the CM4D databses must be unique. This can be a problem when a database is copied (e.g., via backup/restore) and added as another datasource to the Site database. In instances where this occurs, you may end up with duplicate GUIDs in the CM4D databases. The GUID Replacer tool may be used to reassign all GUIDs in the CM4D database in order to ensure uniqueness. This utility should only be used when necessary and by the appropriate personnel.

## Export Data – Updated DMIS Formatting

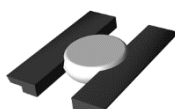
The export data option previously called 'Volvo DMIS' is now referred to as 'DMIS Statement' has been updated to take into consideration changes to the DMIS formatting definitions. In addition, a new section has been added to the Cm4d.ini file with options for further customizing or updating formatting for the DMIS Statement export format. See the help documentation for details on how to use this new configuration.

## Feature Specific 3D Markers

There are now unique 3D feature markers for all feature types. Previously, the feature specific types were limited to surface, hole, slot, midpoint, distance and xyz. Now the remaining feature types are represented with the addition of gap, flush, range and plane.



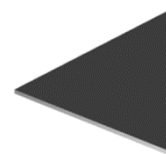
Gap



Flush



Range



Plane

## Routine Handedness Variable

A variable has been added that will resolve the handedness of the Routine, but with a modification. In cases where there is no handedness defined for the routine. Where 'No Handedness' would typically resolve as 'Routine^?H', this variable resolves as 'Routine^BH': ~rout, hand, RH, LH, BH, BH~

## DataSet Events Coverage Removed

Event Coverage has been removed from the DataSet Event Properties option for external event notifications. The options for 'by cell' or 'by row' are no longer available, and all events are considered the same as the previous coverage 'by DataSet'. Now all events will send a single notification when any data is triggered by the DataSet. This has been done in order to prevent a huge number of email notifications to clutter up the mail server and because by cell/row has proved to be an unnecessary refinement for outgoing events.

## DataUtility Search Improvements

The search capabilities in DataUtility have been enhanced to include some of the newer data parameters:

- ▶ **Nominal UVW** – Checkboxes have been added for Vector U, Vector V and Vector W Nominal types. A search using the “All” checkbox also includes any UVW vector nominals.
- ▶ **Results Rules** – Filter options have been added to the Samples Search to filter results by Samples with no Results Rule assigned, or to search for a specific Results Rule name.

## Program Fixes

APPLICATION	CORRECTED ITEM	REFERENCE
CM4D	Car Deviation data is not displayed in the Dataset.	INC21017
	The Polar feature type is missing from the Use Feature Characteristic dropdown menu in Annot Properties.	INC12691
	When creating a snapshot CM4D gets stuck on loading and does not create the snapshots.	INC27258
	The Array Sheet takes a long time to finish loading.	INC27257
	Snapshot generation fails in documents with sheets that have the % symbol in the SheetSet/Sheet labels.	
	The default Report Name value for new Managed Reports (~doc,title~) can result in Scheduler PDF reports missing (*.pdf) file extensions. <i>Solution: The new default value is now ~doc,label~.</i>	
	The Feature Properties button is missing from the toolbar.	
	3D CAD images are slower to load than in previous versions.	INC20176
	Charts connected to a DataStack and use the ~cell~ variable as the Text Label repeats the value from the first cell instead of displaying the value for the corresponding cell.	INC25947
	Use Score for Styles variable is not applied to Table cells.	INC31603
	The ~cell~ variable returns a NULL value as 0.00 (zero).	INC39664
	Uncross Leader Function does not work for annotation created by the Chain function.	INC12143
	The ~err~ variable treats values as ‘good’ even if they are bad and puts a zero value in the DataSet.	INC41584
CM4D Interactive	Changing the report type after using the Keep Selected or Remove Selected options in the Feature grid prevents the Show All from restoring the hidden rows.	INC33975
	Some of the Sample labels for a Feature are blank in the blue DataSet grid. <i>Reason:</i> This is primarily a setup issue. The template uses a DataStack Conformance Setup with the „Evaluate on Current Process Only“ option enabled. This evaluation type prompts the charts to display Samples for the current Baseline, but in this case the Routine loaded included some features with a different Baseline setup. <i>Solution:</i> It is recommended that the DataStack in the Startup Template is fixed according to your Baseline setup. However, a modification has been made to this version so that the blue grid will now show the Sample labels even if the Routine has an inconsistent Baseline setup.	INC31102

	Routines with NULL Routine Filters are not loaded when double-clicking the <unassigned> node in the tree.	INC32306
	Changing Routines resets the 3D model to its default position.	INC33978
	Users with Analyst privileges cannot double-click the View to enter Edit Mode.	INC39490
	The Deviation direction displayed in the grids for Midpoint Constructed Feature is opposite to the Deviation values of the Reference Features.	INC38515
<b>CM4D Scheduler</b>	Queue Status of the Scheduler jobs fluctuates between <i>Waiting</i> and <i>Processing</i> .	INC33933
<b>CM4D Web</b>	Reports indicate a different „Last Sample“ when printing with the last 15 samples compared to the last 30 samples.	INC27063
	Filtering does not return all expected data values for Managed Reports with multiple queries or a single query with multiple Routines. <i>Note: This bug originates in CM4D Scheduler; an updated version of CM4D Web is not required for this fix.</i>	INC38614
<b>CM4D Workcell</b>	Processing HVD Samples thru Workcell generates Orphans in the database.	INC28097
<b>Data Archiver</b>	Removing data from Database using Data Archiver does not delete the corresponding data from the Results Database.	
<b>DataSmith</b>	„Search for“ instruction with „Do Not Ignore Case“ option is ignoring cases.	INC44742
	Trim Spaces options are not persistent. When the Trim Spaces from the Leading/Trailing check boxes are unchecked in the mangle interface and a translator is saved, they are checked again when the translator is reopened.	INC42778
<b>DataSmith Batch</b>	Using the option Mangle Lookup from File in the translator generates [false] error messages in the log file.	INC27474
<b>Data Utility</b>	Cannot edit Specification Limits (even with required privileges).	INC30008
	DataUtility crashes on initial Search with more than one DataSource that has an empty SiteRoutine table.	
<b>Results Services</b>	Loading data through Results services calls procedure LoadUserIDs unreasonable number of times. This becomes a performance issue when a lot of users exist. <i>Solution: The changes made to the Results Services introduced in this version eliminates this issue.</i>	INC29007
<b>Site Manager</b>	Deleting a DataSource in SiteManager does not delete its SiteCodes from SiteRoutine table.	



## v25.0.21182

### General Notes

- ▶ CM4D Db Schema: 25b

### New Features

#### Wireframe (WYR) Image Support Re-introduced

With the introduction of the HOOPS engine in v25, support for some older image types were discontinued. However, in this version support for 3D wireframe models has been re-introduced. This includes settings for wire overrides in CM4D image properties.

#### Document Properties - Feature Marker Colors

Feature marker default colors can be set on the document properties. The color can either be set using a dropdown color picker, or the colors can be defined in the Cm4D.ini file. If these are defined in the INI file, the color values are copied into the document on creation. On existing documents, the values can be reset to values saved in the INI file. See the help documentation for details.

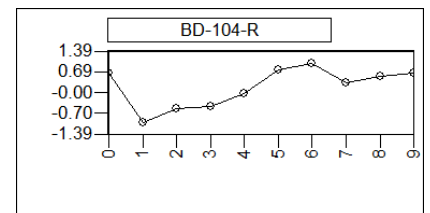
#### New Variables for Chart Axis Labels

In charts using a query with multiple Routines, chart axis labels show the DataSet column number when the Sample labels cannot be resolved.

New variables have been added that can be used in the axis label field that will properly resolve for multiple Routines:

- ▶ ~cellsamp,label~
- ▶ ~cellsamp,filter,[a-z]~

For DataSets with multiple Routines, these variables will resolve the chart axis as the Sample Label or Filter Label instead of the DataSet column number. This is best used with either a single feature or with Routines that have corresponding samples.



Annot Properties

Plot General | Plot Top Area | Plot Bottom Area | Plot History | Genera

Cause Settings

☒ View Causes ☐ View Cause Comments

☐ View Cause Hierarchy ☐ View Cause with Parent Only

Top Plot Area %: 100 Bottom Plot Area %: 0

Horizontal Axis

Location: ☐ Top ☒ Bottom

Tick Size: 3

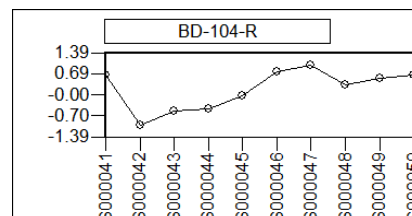
Scale: ☒ Auto Min: 0 Max: 0 Inc: 1

Labels

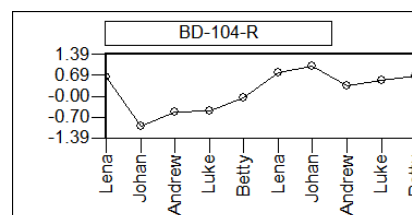
☐ None ☐ Decimal ☒ Text ☐ Num Sequence ☐ Alpha Sequence

~cellsamp,label~

~cellsamp,label~



~cellsamp,filter,c~



## New QaDataSource API Functions

API for the DataSet DataSource 'Use Feature' option has been added with following properties for QaDataSource. See the help documentation for more details.

- ▶ UseDataSetFeature => true selects Use Feature
- ▶ DataSetFeatureLabel => set/get the Feature for a DataSet
- ▶ DataSetFeatureChr => set/get the characteristic

## Program Fixes

APPLICATION	CORRECTED ITEM
CM4D	<b>API - 2 missing functions and one broken one in the QaDataSource object.</b> API for the DataSet DataSource 'Use Feature' option is incomplete. For the solution, see the New QaDataSource API Functions in the Release Notes for more information.
	<b>Car Deviation data is not displayed in DataSet.</b> Car Deviation data is not shown in DataSets. The data could be seen in DataUtility but not in a DataSet. There is no DataSet Sift Rule data type for Car.
	<b>Characteristics of Features does not appear in DataStack Grid.</b> Characteristics of Features shown in the grid disappear after 3D Math is applied to the DataStack.
	<b>CM4D does not show JT build in Transparency.</b> Transparency embedded in JT image files is not applied when the model is loaded in CM4D.
	<b>CM4D v25 does not support WireSmith images WYR.</b> Support for WireSmith (WYR) images was removed in v25 with the introduction of the new HOOPS engine. However, due to customer requirements, wireframes have been re-introduced. See the Release Notes for more information.
	<b>Constructed Feature Marker has wrong direction.</b> When a new distance feature was created from two reference points, the feature marker points in the opposite direction of the CAD.
	<b>DataStack Subtract Calculation Error.</b> A DataStack subtracting DataSets where there are missing (NULL) values results in a NULL value, even when there should be a value from the DataSet that was not NULL.
	<b>Distance Feature Marker visibility and color.</b> Depending on the location, Constructed feature markers can be difficult to differentiate from other markers. See the new 'Document Properties - Feature Marker Colors' in the Release Notes.
	<b>Histogram Issue.</b> The Mean is misplaced and the bell curve is following the mean. This seems to affect histograms and has a similar problem in normality charts.
	<b>Polar characteristics doesn't show up in Chart Annot Properties.</b> There is no option for polar in the drop down menu in Chart Annot Properties.
DataSmith	<b>Sample Label not displayed correctly when using Multiple Routines in Query.</b> In charts using a query with multiple Routines, chart axis labels show the DataSet column number when the Sample labels cannot be resolved. For the solution, see the new New Variables for Chart Axis Labels in the Release Notes.
	<b>Snapshot generation fails.</b> A document with sheets containing more than one view with *.wrl files crashes when generating Snapshots. Note: the document has SheetSet and Sheet labels that include the percent (%) sign.
	<b>Must be in Characteristics for Header and Footer ignores case.</b> The instruction "Must be... do not ignore case" used in the Characteristics of the Header/Footer is ignoring case. It is working correctly for Header and Footer instructions, just not the Characteristics within the header/footer.



	<p><b>Perceptron Translator Issue.</b> This appears to effect anyone who has a Perceptron type machine with more than ~250 characteristics, depending on the length of the feature names. DataSmith puts a carriage return/line feed in about character 4100. This prevents the use of the ~ord~/~rep~ method for reading excel/csv and txt files.</p> <p><b>DataSmith crashes while processing Data file.</b> A specific customer data file causes a crash in DataSmith during processing.</p>
EventSmith SMTP	<p><b>Not all email events arrive when Dynamic Managed Document with Dynamic Query is used with multiple Routines.</b> This fix only applies to EventSmith SMTP that is installed with CM4D Server 24+, not the legacy EventSmith deprecated in v24.</p> <p><u>Note:</u> the legacy ES is only available as a separate install and should only be used if there is a specific reason not to use the built-in ES-SMTP.</p>
Site Manager	<p><b>The *.xlsx generated by the Site manager Export users function does not match the Site manager content.</b> When there are users not assigned to a group, only the last created user without a group is generated into the exported excel file.</p>



## v25.0.20136

### General Notes

- ▶ Site Db Schema: 25b
- ▶ CM4D Db Schema: 25a
- ▶ TLS 1.2

### CM4D Roadmap

Interested in the CM4D development roadmap? Visit: <https://cm4d.roadmap.ats-global.com/>

### New Features

#### Improved 3D Visualization Technology

CM4D has had 3D visualization since its inception in 1991. Over the years, we have had four generations of 3D visualization built into the product.

#### HOOPS Engine

The next generation of technology provides state-of-the-art 3D viewing and interaction capabilities. The initial implementation includes functionality such as:

- ▶ Improved visualization quality
- ▶ Improved tool set
- ▶ Direct import of CAD model

#### Supported File Types

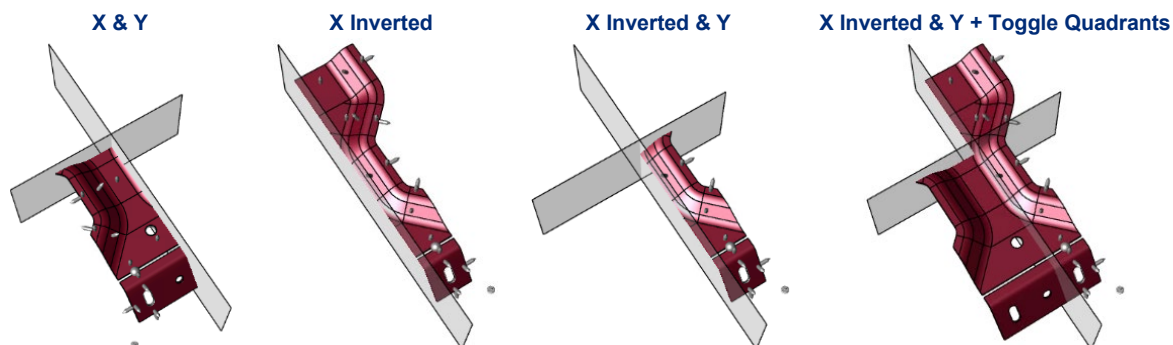
- |                          |                      |                      |
|--------------------------|----------------------|----------------------|
| ▶ ACIS                   | ▶ PDF                | ▶ CATIA V6 /         |
| ▶ AutoCAD - 2D 2         | ▶ PRC                | 3DExperience         |
| ▶ AutoCAD - 3D 2         | ▶ Revit              | ▶ Creo - Pro/E       |
| ▶ Autodesk 3DS           | ▶ Rhino3D            | ▶ I-deas             |
| ▶ Autodesk DWF           | ▶ Solid Edge         | ▶ IFC                |
| ▶ Autodesk Inventor      | ▶ SolidWorks         | ▶ IGES               |
| ▶ CATIA V4               | ▶ STEP               | ▶ JT                 |
| ▶ CATIA V5               | ▶ STEP/XML           | ▶ Parasolid          |
| ▶ CATIA V6 /             | ▶ Stereo Lithography | ▶ PDF                |
| 3DExperience             | (STL)                | ▶ PRC                |
| ▶ COLLADA                | ▶ U3D                | ▶ Rhino3D            |
| ▶ Creo - Pro/E           | ▶ VDA-FS             | ▶ Solid Edge         |
| ▶ FBX                    | ▶ VRML               | ▶ SolidWorks         |
| ▶ GL Transmission Format | ▶ Wavefront OBJ      | ▶ STEP               |
| ▶ I-deas                 | ▶ FORMAT             | ▶ Stereo Lithography |
| ▶ IFC                    | ▶ ACIS               | (STL)                |
| ▶ IGES                   | ▶ Autodesk Inventor  | ▶ U3D                |
| ▶ JT                     | ▶ CATIA V4           | ▶ Unigraphics - NX   |
| ▶ NX - Unigraphics       | ▶ CATIA V5           | ▶ VDA-FS             |
| ▶ Parasolid              | ▶ CATIA V5           | ▶ VRML               |

❗ CM4D image formats XGL and WYR are no longer supported.



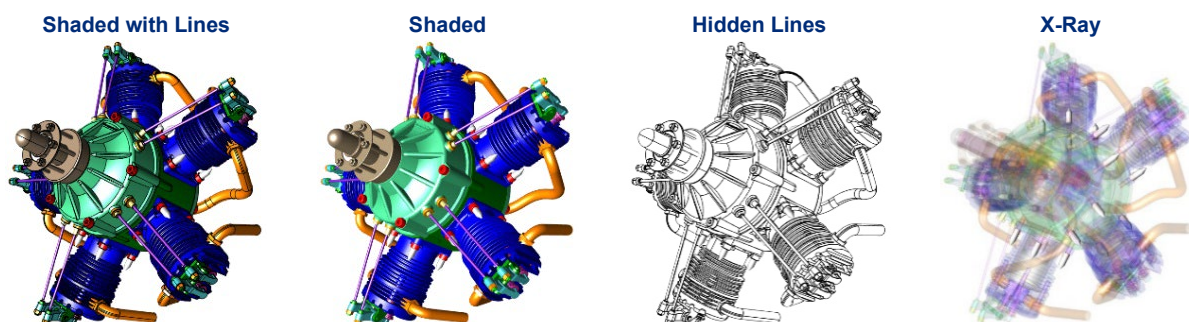
## Cutting Planes

The 3D HOOPS engine has built-in interactive cutting plane support and automatically generates “capping geometry” for closed meshes. It also supports aggregating cutting planes into sectioning planes to slice through and cut-out parts of a model.



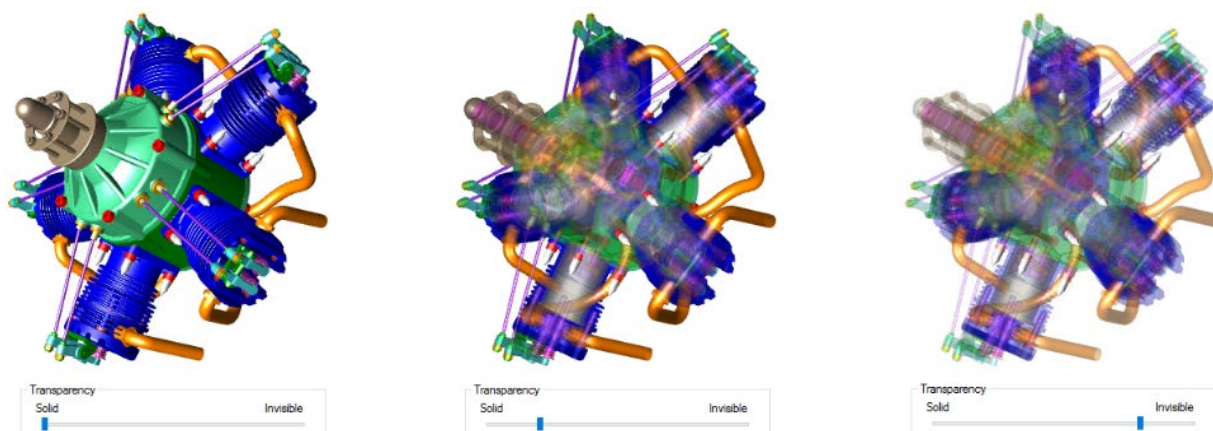
## Display Modes

Display Modes are different ways that CM4D can draw the model in a View. Switching the display mode is an easy way to turn off visibility of faces and lines for the whole model, make Feature markers more prominent or to provide a result suitable for hardcopy or screenshots.



## Transparency

Updated transparency settings provide a sliding scale from solid to transparent.



## 3D Feature Markers

Features with vectors have a 3D marker that is unique for the feature type. This version introduces Surface, Hole, and Slot. Constructed Features Midpoint and Distance also have a unique marker.



## Optional Results Database

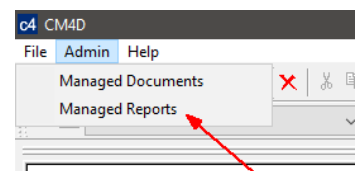
Using the Results Database is now optional. If you do not want to setup and use Results, you can disable the option at the Site database level. When the Results database is disabled, results messages will not be generated and the results services are not used.

**i** Without the Results database configured you will miss out on the benefits of a high-performance repository of information available for business analysis.

**!** In future versions of the product, the Results data will be a key part of the development path and a requirement for some new CM4D applications.

## Report Manager in Classic

Added a mechanism to administrate Managed Reports in CM4D. Document managers can create, modify and delete Managed Reports using CM4D Classic. This allows you to manage reports directly within the CM4D environment, rather than requiring the addition of CM4D Web.



Managed Report

Report Properties

Managed Report Label  
Animated Join - Hood - new report

Report Name  
~doc,title~

Report Depository  
Depository 1

Tag Source  
None

Report Contents

Document Name	SheetSet Label
Animated Join - Hood	Individual Routines

Select All    Select Document(s)

Ord	Document Name	SheetSet Label
0	Animated Join - Hood	Body
1	Animated Join - Hood	Hood
2	Animated Join - Hood	Hinges

Move Up    Move Down    Clear Selected

Revert    OK    Cancel



### Show/Hide Sheet Border

An option has been added to the SheetSet properties to show or hide the border of a Sheet in CM4D.

Display Border Enabled



Display Border Disabled

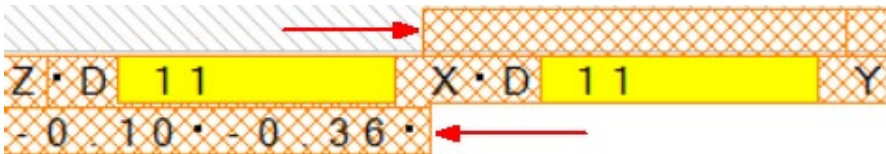


### Program Fixes

APPLICATION	CORRECTED ITEM
<b>CM4D Classic</b>	3D CAD View doesn't load feature markers until the template is refreshed by clicking Refresh From Database option
	Features are not loaded to Results Database
	PDF Link doesn't work in annots
	View Snapshots are not monitor independent
<b>CM4D Interactive</b>	CM4Di crash when creating subroutine
<b>DataSmith</b>	Datasmith shows 2 columns for same characteristic
	Datasmith document isn't saving Ignore Case for Must Be instruction
<b>General</b>	Results not updated when Limits are deleted

### Known Issues

The following are minor known issues that you will want to be aware of. These issues will either be addressed in a subsequent patch release, or are part of an on-going investigation to develop a solution.

AREA	KNOWN ISSUE
General	<b>CM4D Services User</b> - The CM4D service user running the Results Launcher Service must have the Developer privilege in Site Manager. If it does not have this privilege, jobs will fail and jobs will not process.
CM4D Classic	<b>Change Camera Type</b> - After opening a saved document, changing the camera type of a view (Perspective or Orthographic) is not retained the first time it is set. This is not an issue with new documents. <u>Workaround</u> : Set the camera type twice. Set the camera type and click OK to close the view properties. Reopen the view properties and set the camera type again. Click OK to confirm the settings, which are now persistent.
	<b>Grouped Annotations</b> – Annotations in a group disappear if ungrouped from the Array Sheet. If you ungroup model and annotation in Group Sheet set Array list ViewAnnot cm4d document from attachment, model and annotation disappears. <u>Workaround</u> : Navigate to the Sheet before performing any ungrouping operations.
	<b>Print Misc &gt; Print Metafile</b> - Printing a sheet using the Print Misc > Print Metafile menu option, the views sometimes appear to have a faint gray background.
	<b>Process Change Log Viewer</b> - After clicking Print to File, clicking Modify results in a crash. <u>Workaround</u> : Make sure a log entry is selected from the list before clicking Modify.
	<b>Process Change Log Viewer</b> - After entering a User Defined log, the entry does not appear in the list after doing a new search. <u>Workaround</u> : Close the Log Viewer and reopen it to see the new User Defined entry.
	<b>Stacked Alignments (Animated)</b> – The Animated Alignments in Views is not available in CM4D v25. This functionality is intended to be re-introduced in a future version.
DataSmith	<b>Highlight Drawing Misalign</b> - A minor drawing issue may be seen where the second row of a highlighted section ends, the highlight continues to be drawn above the first line. 
EventSmith V2	<b>SMTP Mail Server Authentication Username</b> - The username format for the SSL SMTP mail server must be the user name only ( <b>mjones</b> ), without using either domain ( <i>ats-global\mjones</i> ) or email ( <i>martha.jones@ats-global.com</i> ) formatting.
Results Database Utility	If your Results Database configuration uses Windows Authentication, running the Results Database Utility (as Administrator) does not recognize the 4ds connection string as valid. Since the 4ds connection fails, you are prompted to enter the connection information manually. When entered manually, Windows Authentication is valid.



	<u>Workaround:</u> Use SQL Authentication for your Results database credentials, or simply enter the connection information manually when running the Results Database Utility.
<b>Silent Installations</b>	<p>When running a silent installation with command line information for the Service User, but the user does not exist, the CM4D services do not install correctly.</p> <p><u>Workaround:</u> Create the Service User before executing the silent installation.</p>