

The Independent Solution Provider for Industrial and Process Automation, Quality & IT

ATS cm4d[®]

What's New in v20

The collage displays various software features and data visualizations:

- Web Template Control:** A screenshot showing a web interface with a navigation menu and a 'Web Template Control' section.
- Cpk Roll-up:** A statistical chart showing process capability data with a color-coded legend.
- Alignment:** A 3D model of a red aircraft fuselage with a color-coded alignment chart overlaid.
- Normal Probability Plot:** A statistical plot showing data points against a normal distribution curve.
- Event Smith Subscription:** A screenshot of a subscription management interface.
- Minibal:** A screenshot of a 'Minibal' interface showing a list of items and their status.
- Wing Contour and Slab Contour:** 3D models of aircraft wings and slabs with color-coded contour plots.
- Simulation Requirements:** A grid of small screenshots showing simulation results for various components.
- Classical:** A screenshot of a 'Classical' interface showing a list of items and their status.
- Car Model:** A 3D model of a red car with various data points and charts overlaid.
- CM4D Hardware:** A central 3D model of the CM4D hardware unit.

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v20.4.0

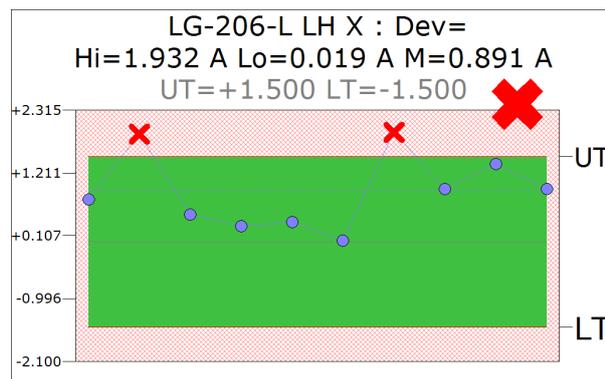
New Features

Classic

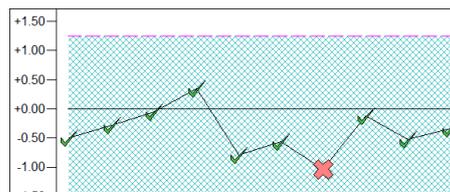
1. "Shading" Style for Limits Lines

Styles for Chart or Graph plot space lines have been enhanced to allow you to alter the appearance of the space between limit lines. This new style can help you to identify the Spec Limits of the chart at a glance. Instead of only having lines to indicate spec limits, you can now apply a brush style that fills the space between the lines (or, in the case of unilateral spec limits, from the line to the edge of the plot space).

In the example below, a Trend Chart has been configured to appear green in between the Upper and Lower Spec Limit (or Tolerance) lines. This is achieved by assigning a Brush color to the Spec Limit lines in the Main Plot Space properties. You can also apply a Hatch pattern to the brush color to achieve a sort of "transparent" color (in the image below, the area outside the Tolerance area is Red Hatch – Diagonal Cross).



Another use of the Brush property with Limit Lines is to easily display both Spec Limit and Spec Limit 2. If you used two marker types for the two spec limits, one may cover the other if the same point meets both specification limits. However, now you could set up Spec Limit to be identified using a Marker, with Spec Limit 2 set to be identified by the shading. In the image below, Spec Limit (a Bilateral Tolerance) is the red x, while Spec Limit 2 (a Unilateral Tolerance) is indicated by the light teal hatching in the background. Using these properties, you can easily see where your data falls for both Spec Limits.



The Brush style can be applied to any of the Limit Lines, as well as User-Defined Lines. For User-Defined lines, the brush will only be applied when there are exactly two (2) User-Defined lines. If there are more or less than 2 lines, the Brush property will not be applied.

TFS 17645

2. Benchmark Graph Performance

The performance of Chart and Graph annotation in CM4D has been improved. The most noticeable performance increase is with Benchmark graphs. In addition to the general performance improvement, Benchmark graphs can use a new Resolve option for Scores that can potentially decrease the time it takes to resolve your data.

The enhancement has been made to the way variables are resolved in the Scores that are used with Benchmark graphs. A new option has been added to the Score Bin properties that will assume that the bin boundary variable would resolve the same information for every cell in the DataSet row, so it does not need to resolve every cell in that row. If the Score Resolve is enabled, the variable is only resolved for the first cell in the row, thereby saving time when displaying Benchmark graphs in a report.

However, you must decide when or if this should be used. The following four scenarios may help you to understand when the Score Resolve option with a Benchmark could be used.

Scenario	Data Setup	Result
1. Example Score – Cpk	<ul style="list-style-type: none"> “Cpk” Score is fully constructed with the “Build Examples” button in Document Scores. Score Bins use numbers (integers) as the bin Boundaries. For example, Score Bin “<1.33” Value text for bin boundary: 1.33 	Score Resolve option will not have any effect on resolve times. Scores using integers typically resolve faster than variables anyway, since all cells in the row already use the same boundary value.
2. Example Score – TolEval	<ul style="list-style-type: none"> “TolEval” Score is fully constructed with the “Build Examples” button in Document Scores. Score Bins use variables as the bin Boundaries. For example, Score Bin “Near Above” Value text for bin boundary: {~ut~*0.8} Tolerance does not typically change within a DataSet row. 	Score Resolve option may be used, and may result in a significant improvement for resolve times.
3. Data Changes from Cell to Cell	<ul style="list-style-type: none"> Score Bins use variables as the bin Boundaries. Variables used will return data that may change from one cell to the next within the DataSet row. 	Score Resolve option should not be used.
4. Tolerance Changes from Cell to Cell	<ul style="list-style-type: none"> Score Bins use a Tolerance variable as the bin Boundaries. For example, Value text for bin boundary: {~ut~} If you have a Process Change, tolerance could change from one cell to the next. 	Score Resolve option may be used, and may result in a significant improvement for resolve times. Since Benchmarks only calculate on the current Process, the Tolerance will not change within the row being calculated.



The Score Resolve option is not enabled by default, so any current Benchmark graphs will only be partially enhanced by the overall performance improvements. If you want to use the new Resolve option, you will need to edit any existing Scores used for Benchmarks that are suitable for this method of Resolve. Remember that you can use the Export/Import Scores option to copy updated Scores between documents.

The Score Resolve option only applies to Benchmark graphs that use a DataSet as a DataSource. It does not apply to DataStacks with the Benchmark Evaluation type. If a Score with Resolve enabled is used with any annot other than Benchmarks, the Score Resolve option will not be applied.

How can you tell if there were improvements to your Benchmark graphs?

Try the following:

1. Compare the same document using Benchmarks in both your current version and in v20.4.0.
2. In v20.4.0, compare the resolve time of your Benchmarks using the Score with or without the Score Resolve option enabled.

Keep in mind that when you first open a document, the DataSources will take time to resolve initially. Once the DataSources have been resolved once, the DataSources used by the DataSets should already be resolved, and you can compare the second resolve for the actual resolve time for the Benchmark graphs.

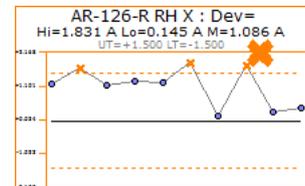
TFS – 17439

3. New CM4D Color: Orange

Orange and Light Orange are now available in CM4D Classic for Annotation Styles.

TFS 16519

Label	AR-122-L
Char	X
Hi	+0.000
Lo	-1.452
Mean	-0.802



Program fixes

CM4D Classic

Corrected item	What it means
MSA gives an empty result list	An incorrect setup of the MSA could result in a crash. TFS 17699
MSA Wizard contains unsupported options	MSA wizard has an option for "Operator 3", but only two operators are supported. TFS 17883

CM4D Interactive

Corrected item	What it means
CM4Di Crash when loading a Sticky Report	When trying to load a Sticky Report from the Query Control dialog, CM4Di crashes. TFS 15979

CM4D Scheduler & DataSmith Batch Managers

Corrected item	What it means
Columns are not expanded on first launch of the Manager interfaces	After a new installation, both the Scheduler and Batch Manager interface columns are too narrow and must be manually adjusted. TFS 17699

Known Issues

CM4D Classic

In charts, if a point meets an Out-of-Control/Tolerance condition, both the standard Series Marker and the Out-of-Control/Tolerance Markers are displayed at the same time.

TFS 22323

CM4D Interactive

Annotation can be deleted from a Report even when not in a Sticky Report. If you select an annot in a Report so that it is highlighted pink, and use the Delete key - the annot is removed. This deletion is not permanent, however. To restore the deleted Annot, reload the Routine or change the Report type.

TFS 22273

v20.3.1

Program Fixes

DataUtility

Corrected item	What it means
DataUtility Crashes - Toolkit pro Looks to be faulting	Multiple instances of crashes while performing search/edit functions of DataUtility. TFS 12052
DataUtility Column Headers do not reflect change after searching for Samples	Sample Headers wrong after selecting Nominals for deletion and then researching Samples before committing changes. TFS 16700

v20.3.0

New Features

CM4D Classic

1. Scripting

Internal Scripting capabilities have been added that allows you to write scripts using the Visual Basic or C# programming languages to create functions and procedures to automate things such as creating DataSets, modifying templates, and loading data. In addition to general program functionality, access to the CM4D API is available.

 CM4D has no control over what can be done with a script, so it is possible that you could end up writing scripts that lock up, crash, or otherwise disable CM4D. ATS maintains no responsibility for any scripts that you write so exercise caution and be aware of what is being done with your scripts.

To use scripting, you must have:

- Site Database
- Script User Privileges

Scripts are controlled by assigning user Privileges in SiteManager. What users can do with scripts, and at what level, is all managed by the 'Script Administrator'.

Script Administrator	<input checked="" type="checkbox"/>
Script Manager Public	<input checked="" type="checkbox"/>
Script Manager Group	<input checked="" type="checkbox"/>
Script Manager User	<input checked="" type="checkbox"/>
Script Executor Public	<input checked="" type="checkbox"/>
Script Executor Group	<input checked="" type="checkbox"/>
Script Executor User	<input checked="" type="checkbox"/>

 To avoid security issues with macros saved in documents, CM4D scripts are only stored in the Site Database.

Existing external scripts may be migrated into CM4D, but it must be put inside a very specific shell of start/end code and formatted to use internal references (cm4dDoc), rather than external (QaDoc). Only VB.net or C# are supported, so if you have code in any other language it will need to be migrated accordingly.

Scripts can be executed:

- On Document Open (Document Defaults)
- On 'Execute' of an Annotation (Annot Properties)
- On Demand (Script Selector Dialog)

```

Entry Code
Public Class CM4DScript
    Public Sub Execute(cm4dDoc as Cm4DScriptingDoc)
        cm4dDoc.EndScript()
    End Sub
End Class
Entry Code
public class CM4DScript
{
    public void Execute(Cm4DScriptingDoc cm4dDoc)
    {
        cm4dDoc.EndScript();
    }
}
    
```

External .Net Assemblies can be called in CM4D, including global or private assemblies, and made available to your script writers inside CM4D, giving your users access to the powerful programming capability of the Microsoft .Net Framework. Which Assemblies are made available is determined by user(s) with the 'Script Administrator' privilege.

CM4D does not provide a debug environment for scripts. You may develop your scripts in an external application (requires an API license). When you are done, migrate the code into CM4D. The only 'safety' mechanism provided in CM4D is a Timeout function that can be set on each script. This will stop a script after a designated time in order to avoid potential problems, such as infinite loops.

A full list of CM4D API Methods is available in the ATS CM4D help file. External use of the CM4D API requires an API License and the API Site Database Privilege.

TFS 10187



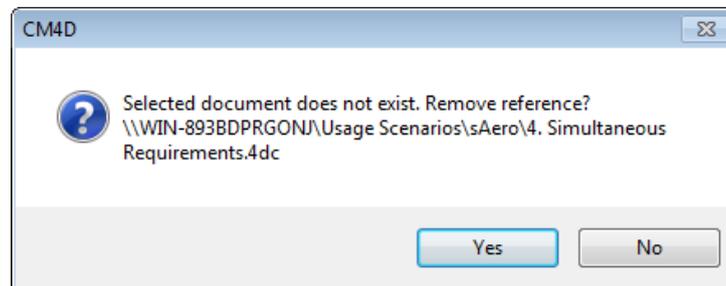
2. Managed Document Selector

The default behavior of the Managed Document Selector (added in v20.0) has been modified. When the Managed Document Selector is opened, the Site tab will be activated. If the Site tab is not configured in the settings, then the first tab will be displayed. The default site for the current user will be selected by default.

TFS 13326

3. Verify Document Exists - Delete Invalid Managed Document

A "Verify Document Exists" button has been added to the Managed Document Selector, which confirms that CM4D can find the selected document in the saved directory. This saves on time, as you will not need to attempt to load a document over a network before finding out that it no longer exists.



If the managed document no longer exists, you are given the option to remove that document reference from the Site database.

TFS 13305

DataSmithBatch

4. Detect Batch Translator Changes

Changes to DataSmith translator (*.4Datasmith) files that are used by DataSmithBatch will now be detected the next time it is used for processing a job. Previously, a restart of the Batch service was required before any changes would be detected. This change will greatly reduce the amount of IT support required when changes are made to translators.

TFS 13123

Program Fixes

CM4D Classic

Corrected item	What it means
Loading a .tex causes a crash	Loading a *.tex (text annotation template file) into a template causes CM4D to crash. TFS 12546 – This fix was also delivered as a Hot Fix in v20.2.1.
Occasional crash when exiting the Samples Query properties	When exiting the Sample Query properties dialog, CM4D would occasionally crash. TFS 13324 – This fix was also delivered as a Hot Fix in v20.2.1.
Cannot open Managed Documents	When attempting to open a Managed Document, the following error message appears: "You do not have an API license this will override any API privileges that you have! Selector Error: Invalid Selector Configuration. Missing Settings!" TFS 13143
Default controls are different in Assignable Cause dialog	The Assignable Causes dialog behaves differently than before. Previously, after selecting a cause and checking the "Masked" option, the user could hit the Enter key twice to apply and exit. This no longer works. TFS 13325
Using select annot by click on model point causes crash	The annot selection by clicking on a feature inside the view does not work. Instead the view goes directly to edit mode. Attempting to do this occasionally causes an instant crash with CM4D simply vanishing with no log or message. TFS 12953 - This fix was also delivered as a Hot Fix in v20.2.2.
Annot Picture scaling does not use the Windows display scaling	When displaying an Annot Picture, the size of the Picture changes if the Windows display scaling is set. TFS 13391 - This fix was also delivered as a Hot Fix in v20.2.2.
Feature Properties dialog does not use change log	When changing limits from the Feature Properties dialog, you do not get a "Change Log Comment" prompt. If limits are changed via this dialog, the changes are not being logged to the Site database and are therefore untraceable from the Process Change Log Viewer. TFS 12992
Spectrum not working	The Spectrum functionality is not working. NOTE: Partial fix implemented; "arrow" feature markers are now displayed properly. TFS 13341
'Query Like' does not update on query label change	If you change the label of a query, any other queries that use it as a reference for "Query Like" are not updated. TFS 15236

Corrected item	What it means
Graph and Chart annotation does not appear properly with 100% (top) and 0% (bottom) plot space ratio	When the control chart options are used for statistics in a dataset, the bottom plot space in the chart can be set to 100% and the top to 0% so that just the bottom plot space shows. However, if the top plot space is set to 100% and the bottom to 0%, the chart still looks as if the spacing is set to 60% and 40%. This error is found in a Chart object as well as a Graph object set to a control chart type like X-Bar & R. TFS 13932
Tables referencing Datasets and using variables only calculate the first record	Please refer to the section v20.2.4 – Program Fixes below for more information. TFS 15389 – This fix was also delivered as a Hot Fix in v20.2.4.
Upgrading from a version prior to v20.2 corrupted table calculations in existing templates.	Please refer to the section v20.2.4 – Program Fixes below for more information. TFS 15855 – This fix was also delivered as a Hot Fix in v20.2.4.
Absolute Sample Cutoff Dates are not being observed	Data collected from plants in a different time zone than the plant receiving the data is not being processed correctly. The Sample Cutoff Dates are not using UTC. TFS 15361 - Fixed in v21.0.0, but also delivered as a Hot Fix here.

CM4D Interactive

Corrected item	What it means
“Find Feature” has bad performance when load feature or routine	When using the Find Feature, the whole tree structure is expanded. As there are a lot of Routines in the Database, it takes a long time. Also, after listing the feature found in this dialog, clicking Exit also forces a resolve of the entire tree. TFS 12092

CM4D Workcell

Corrected item	What it means
Workcell crashes with Query Control	Workcell crashes when double clicking on a Routine to open Query Control window. TFS 12988
The Single SiftRule is always the default sift rule	The correct SiftRule is activated, but the Single SiftRule is always used when Workcell is opened. When any new sample is loaded the system reverts to the single rule and the operator must manually choose the correct rule. TFS 13621 - This fix was also delivered as a Hot Fix in v20.2.2.

DataSmith

Corrected item	What it means
Crash in DataSmith when removing a Config	If a Config is removed from a translator, the next attempt to load a file into a different Config results in a crash. There have also been numerous crashes after a large number of files are loaded and then removed. TFS 13159 - This fix was also delivered as a Hot Fix in v20.2.2.

Corrected item	What it means
Crash when delete the last Config and switch to Data tab	If you delete the last Config on the Configurations tab and then switch to the data files tab, the program will crash TFS 14414 - This fix was also delivered as a Hot Fix in v20.2.2.

DataSmithBatch

Corrected item	What it means
DataSmith Batch Not Updating	Saved job settings do not take effect until the DataSmithBatch service is restarted. Refer to the enhancement, Detect Batch Translator Changes . TFS 15359

DataUtility

Corrected item	What it means
Replicate Routine issues	<p>12984 - Cannot edit Routine Description - the ability to rename/edit routine description for this replicated routine in the "Replicate Routine" window is missing.</p> <p>12985 - Image path not replicated</p> <p>12986 - LSL value not correct - the minus sign on lower limit (LSL) is not replicated; all negative LSL values are positive.</p> <p>12987 - Site Code not assigned - does not suggest available (not used) Site Code in database for replicated routine.</p> <p>13321 - Does not copy Feature Description</p> <p>13322 - LRL value not correct - the minus sign on lower reasonable limit (LRL) is not replicated; all negative LRL values are positive.</p>
DataUtility does not allow changing a Feature Label	Changing a Feature Label in DataUtility causes an error message about duplicate Feature labels, when no duplicate Feature exists. TFS 13715 – This fix was also delivered as a Hot Fix in v20.2.1.
DataUtility Column Headers do not reflect change after seaching for Samples	Sample Headers wrong after selecting Nominals for deletion and then researching Samples before committing changes. TFS 16700

v20.2.4

Program Fixes

CM4D Classic

A fix made to tables in v20.2 changed how Table annotation using variables resolved when subsets of DataSet rows are used as the DataSource. This new way of displaying tables is actually the correct way, but some existing users have a large number of documents that rely on the way tables have been resolving until now. Rather than forcing users to change potentially hundreds of documents, we have instead provided a way to retain the behavior of tables from the past versions.

To support the migration of existing tables, we have added a new option to the Table annot properties called **Expand Nostalgic**. What this means is that tables with the Expand Nostalgic property turned on will expand in the same way as seen in previous versions.

For example, a table set up to load rows 1 through 5 from the DataSet and did not use Expansion of Features and/or Samples (at the Cell Property level) would produce something like the following:

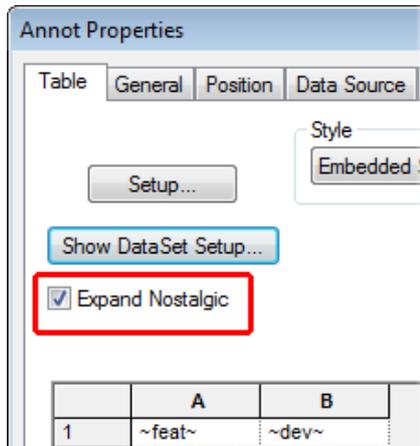
	v20.2.3 (and earlier)	v20.2.4																												
Table Resolved	<table border="1"> <thead> <tr><th colspan="2">Cell Expansion Off</th></tr> </thead> <tbody> <tr><td></td><td>Sample One</td></tr> <tr><td></td><td>Sample One</td></tr> <tr><td></td><td>Sample One</td></tr> <tr><td></td><td>Sample One</td></tr> <tr><td></td><td>Sample One</td></tr> <tr><td>PT101-01</td><td>+0.56</td></tr> <tr><td>PT101-02</td><td>-0.71</td></tr> <tr><td>PT101-03</td><td>-0.50</td></tr> <tr><td>PT101-04</td><td>-0.19</td></tr> <tr><td>PT101-05</td><td>+0.51</td></tr> </tbody> </table>	Cell Expansion Off			Sample One	PT101-01	+0.56	PT101-02	-0.71	PT101-03	-0.50	PT101-04	-0.19	PT101-05	+0.51	<table border="1"> <thead> <tr><th colspan="2">Cell Expansion Off</th></tr> </thead> <tbody> <tr><td></td><td>Sample One</td></tr> <tr><td>PT101-01</td><td>+0.56</td></tr> </tbody> </table>	Cell Expansion Off			Sample One	PT101-01	+0.56								
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Another example is of a table that uses the same DataSource as the first example, but the way the variables are inserted into the cells may display information in way that appears correct:

	v20.2.3 (and earlier)	v20.2.4																
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PT101-01	+0.56																	
Table Setup																		

By default, Expand Nostalgic will be turned on for any existing table annotation in documents created prior to this version. Any new tables will have this option turned off by default, but can be turned on if you want tables to behave the same way they did in an earlier version.

To enable this option, you would go to the Table Properties and select the check box called "Expand Nostalgic".



Tables that have Expand Features and/or Samples turned on (in the Cell Properties), or tables that Use All Rows from the DataSet, will not appear any differently than in previous versions. They will appear the same whether the new Expand Nostalgic is turned on or not.

Tables (Expand Nostalgic On or Off) in v20.2.4																																																																																									
Use All Rows or Rows 1-5 & Expand Features and/or Samples OFF	<table border="1"> <thead> <tr> <th colspan="2">Cell Expansion Off</th> </tr> <tr> <th></th> <th>Sample One</th> </tr> </thead> <tbody> <tr> <td>PT101-01</td> <td>+0.56</td> </tr> </tbody> </table>	Cell Expansion Off			Sample One	PT101-01	+0.56																																																																																		
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TFS 15389, 15855

v20.2.2

Program Fixes

CM4D Classic

Corrected item	What it means
Using select annot by click on model point causes crash	The annot selection by clicking on a feature inside the view does not work. Instead the view goes directly to edit mode. Attempting to do this occasionally causes an instant crash with CM4D simply vanishing with no log or message. TFS 12953 - Fixed in v20.3.0, but also delivered as a Hot Fix here.
Annot Picture scaling does not use the Windows display scaling	When displaying an Annot Picture, the size of the Picture changes if the Windows display scaling is set. TFS 13391 - Fixed in v20.3.0, but also delivered as a Hot Fix here.

CM4D Workcell

Corrected item	What it means
The single sift rule is always the default sift rule	The correct sift rule is activated, but the single sift rule is always used when Workcell is opened. When any new sample is loaded the system reverts to the single rule and the operator must manually choose the correct rule. TFS 13621 - Fixed in v20.3.0, but also delivered as a Hot Fix here.

DataSmith

Corrected item	What it means
Crash in Datasmith when removing a Config	If a Config is removed from a translator, the next attempt to load a file into a different Config results in a crash. There have also been numerous crashes after a large number of files are loaded and then removed. TFS 13159 - Fixed in v20.3.0, but also delivered as a Hot Fix here.
Crash when delete the last Config and switch to Data tab	If you delete the last Config on the Configurations tab and then switch to the data files tab, the program will crash. TFS 14414 - Fixed in v20.3.0, but also delivered as a Hot Fix here.

v20.2.1

Program Fixes

CM4D Classic

Corrected item	What it means
Loading a .tex causes a crash	Loading a *.tex (text annotation template file) into a template causes CM4D to crash. TFS 12546 – Fixed in v20.3.0, but also delivered as a Hot Fix here and v20.1.9.
Occasional crash when exiting the Samples Query properties	When exiting the Sample Query properties dialog, CM4D would occasionally crash. TFS 13324 – Fixed in v20.3.0, but also delivered as a Hot Fix here and v20.1.9.

DataUtility

Corrected item	What it means
DataUtility does not allow changing a Feature Label	Changing a Feature Label in DataUtility causes an error message about duplicate Feature labels, when no duplicate Feature exists. TFS 13715 – Fixed in v20.3.0, but also delivered as a Hot Fix here and v20.1.9.

v20.2.0

New Features

CM4D Classic

1. Allow Tables to Span Multiple Sheets

For Table annotation, the number of Columns can now be set, as previously only the number of Rows could be selected. When working with tables that contain a large number of columns, by selecting which columns appear on a sheet, you can create a table of information that spans multiple sheets. For example, Sheet 1 could display columns 1 through 10, Sheet 2 could display columns 11 through 20, and so on.

To select the number of columns in a table:

1. Right-click on a table annotation and select Properties.
2. Go to the DataSource tab.
3. In the Samples section, select the check box **Use Only Sample #**.
4. Set the Sample # fields to the column numbers you want to include in the table.

Number of Rows
Example: Table will show rows 2 through 4

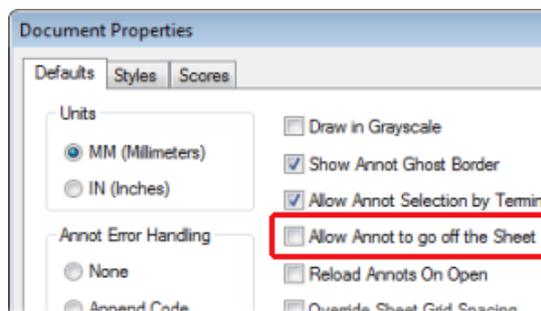
	70601091349	70601091351	70601091353	70601091355	70601091357
Feat 2	-0.53	+1.15	-0.69	+1.54	-0.23
Feat 3	+0.88	-0.89	+0.99	+6.62	-0.26
Feat 4	-1.21	-0.32	+0.56	+1.48	+0.24

Number of Columns
Example: Table will show columns 2 through 6

To load a set number of Last Samples, enter negative numbers in the Sample # fields. For example, '-1' means the last Sample, so setting this property to 'Use Only Sample # -5 Thru -1' would mean the last five Samples would be loaded in the five table columns.

2. Allow Annot off the Sheet

A new Document Default option has been added which allows annotation to be placed off of the sheet (on the green area). When this option is off, any annotation moved off of the sheet snap back to the nearest sheet margin.



This option, which is off by default to support backwards compatibility, can also be set in the [defaults] section of the Cm4d.ini file: `allow_annot_off_sheet=0`

TFS 12356

3. Sift Rule Variables

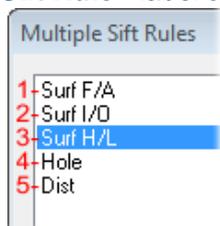
A new variable, `~siftrule~`, has been added that reports various summary statistics on data in a DataSet that is associated with a particular Sift Rule. New variables available:

- `~siftrule,[],boxhi~`
- `~siftrule,[],boxlo~`
- `~siftrule,[],hi~`
- `~siftrule,[],lo~`
- `~siftrule,[],iqr~`
- `~siftrule,[],invalidcount~`
- `~siftrule,[],lif~`
- `~siftrule,[],uif~`
- `~siftrule,[],lof~`
- `~siftrule,[],uof~`
- `~siftrule,[],q1~`
- `~siftrule,[],q3~`
- `~siftrule,[],mean~`
- `~siftrule,[],median~`
- `~siftrule,[],nospeccount~`
- `~siftrule,[],nospeccount2~`
- `~siftrule,[],outofspeccount~`
- `~siftrule,[],outofspeccount2~`
- `~siftrule,[],percentinvalid~`
- `~siftrule,[],percentvalid~`
- `~siftrule,[],range~`
- `~siftrule,[],rowcount~`
- `~siftrule,[],sum~`
- `~siftrule,[],totalcount~`
- `~siftrule,[],conformcount~`
- `~siftrule,[],nonconformcount~`
- `~siftrule,[],percentconform~`
- `~siftrule,[],percentnonconform~`

When a Sift Rule variable is used with two parameters, the calculation is done only for the Sift Rule that is specified by the first parameter. The second parameter is the statistic that will be calculated on the data included in the Sift Rule specified by the first parameter.

The first parameter can be specified using one of the following options:

- **Number of Sift Rule** - the integer that indicates the position of Sift Rule in the list, as it appears in the Multiple Sift Rules dialog.
- **Label of Sift Rule** - label of Sift Rule.

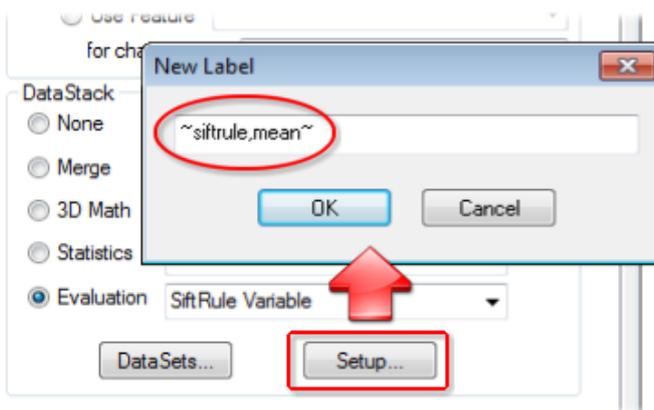


Example using Number: `~siftrule,3,mean~`

Example using Label: `~siftrule,Surf H/L,mean~`

4. DataStack Evaluation - SiftRule Variable

A new DataStack type has been added: **Evaluation/SiftRule Variable**. This evaluation will process the defined variable string against all SiftRules within the stacked DataSets. When the `~siftrule~` variable is used with this DataStack type, the first parameter is not used.



The resulting DataStack has a row for each DataSet in the stack. The label of the row is the label of the DataSet. There will be one column for each SiftRule. If more than one DataSet is stacked, then the number of columns will be determined by the DataSet with the most SiftRules defined. The label of the column is set to the label of the SiftRule.

Example Table for a DataStack with Evaluation/SiftRule Variable `~siftrule,mean~`.

	Surf F/A	Surf I/O	Surf H/L	Hole	Dist
MuSiRu	-0.220		+0.114		

If more than one DataSet is stacked, the column labels will only appear if all of the Sift Rules in that column have the same Sift Rule label. If the Sift Rule labels are different, the column header will remain empty.

	F/A	I/O		Hole	Dist
q1000	-0.220		+0.114		
Legoman	+0.142				
CornerMod		-0.100	-0.107		
Bullet	-0.200				

CM4D Interactive

5. Multi-SiftRules for Sticky Reports

Support for saving Multiple Sift Rule settings has been added to Sticky Reports.

TFS 12763

Program Fixes

CM4D Classic

Corrected item	What it means
Feature Editor is allowing all users to modify nominals, tolerances, filters, etc.	Feature Editor is allowing all users to modify nominals, tolerances, filters, etc. Even if they only have analyst privilege. There is also no ability to trace who made change because no one will get Change Log Comment window when using this function. TFS 12725
CM4D v20 puts leader lines in different place on print.	Leaders lines placed manually on a 2D view appear in a different position on report when printed to a PDF. TFS 12574
Limit direction letters (I/O F/A H/L) are wrong in feature editor on left side in Y when J is negative.	Limit letters (In or Out) in the feature editor are wrong on SMI Surf evaluated in normal direction when SMI Surf feature is on the minus side of the car and deviation is in Y direction. USL and LSL column in the Data Grid (Blue grid) shows it correct. TFS 12635
~outofspeccount~ does not return the same value as OutOfTolerance trigger	The ~outofspeccount~ calculation does not use the compare precision. TFS 13181 – This fix was also delivered as a Hot Fix in v17.4.
Unable to set up Managed Document Search Parameters	When setting the Managed Document Selector search parameters, the settings appear to be created but no actual search parameters are saved. This is only occurring with Oracle databases. TFS 12950
Occasional crash when assigning a Cause	When assigning a Cause, CM4D occasionally crashes. TFS 13323 – This fix was also delivered as a Hot Fix in v20.1.8.
Document Analysis Causes Crash	The menu option “Documents>Miscellaneous>Document Analysis” causes a crash. TFS 12075
~siftrule~ giving an answer even if no Multi-SiftRule active	The variable ~siftrule~ provides an answer even if there is no active Multi SiftRulee. In effect, the answer is the same as ~dataset~. TFS 12905
Cannot set Chart Horizontal Axis Labels to "Num Sequence"	In the PlotSpace properties of a Chart, it is not possible to set the Horizontal Axis Labels property to "Num Sequence". Only "None", "Decimal" and "Text" are working. TFS 12957
Group Annot not drawing right in AutoReport	When using a Group Annot in an AutoReport, it is not displayed properly when propagated in the report. The Leader Lines point to the wrong feature. TFS 12958
Tables causing an Access Violation	A bug in table annot causing an access violation error. TFS 13005
Occasional crash when exiting the Samples Query properties	When exiting the Sample Query properties dialog, CM4D would occasionally crash. TFS 13324 – This fix was also delivered as a Hot Fix in v20.1.8.

Corrected item	What it means
Bad format in error string	A configuration issue created an error. When CM4D reported the error, the error string contained bad formatting that caused CM4D to crash. TFS 13180 – This fix was also delivered as a Hot Fix in v20.1.5.
Loading a JT file can crash CM4D	Occasional crash when opening a CM4D document. One suspect is trying to use a large JT file. The cause of this was that the version of JT used by CM4D was upgraded. This new version of JT contained a memory problem, so a fix was implemented in CM4D to circumvent this problem. TFS 13182 – This fix was also delivered as a Hot Fix in v20.1.6.
Polar Calculations not Correct	Polar values were calculated inconsistently. If the calculations were done using Actuals, a different answer was given than when using Deviations. TFS 12720 – This fix was also delivered as a Hot Fix in v17.3.902.
Crash when changing "Type of Use"	Changing "Type of Use" in the DataSet Properties to "Subgroup Mean & Range (XBar & R) caused CM4D to crash. TFS 13339

CM4D Interactive

Corrected item	What it means
Cannot insert a decimal point in Feature Properties	When changing a nominal value in the Feature Properties dialog, it does not allow you to type in a dot separation of decimal figures (1234.567). It is possible to copy value with a decimal from Notepad, for example, paste it, and save. TFS 12076

CM4D Scheduler

Corrected item	What it means
AutoReport is not rendering all of the features when run through scheduler.	AutoReport is not rendering all of the features when run through scheduler. The reports are cut off at page 25, even when the AutoReport Max Sheet Count is set to 99 in the Document Defaults. This setting is read correctly in Classic, but when printed by Scheduler it reverts to the default of 25. TFS 13181 – This fix was also delivered as a Hot Fix in v17.3.

DataSmithBatch

Corrected item	What it means
Batch settings file not editable	The batch settings file xml cannot be edited in an outside editor such as notepad. TFS 12800 - This fix was also delivered as a Hot Fix in v20.1.3.

DataUtility

Corrected item	What it means
DataUtility Crashes	DataUtility is unstable and crashes while performing searches or editing. TFS 13160 - This fix was also delivered as a Hot Fix in v20.1.9.

v20.1.9

Program Fixes

CM4D Classic

Corrected item	What it means
Occasional crash when exiting the Samples Query properties	When exiting the Sample Query properties dialog, CM4D would occasionally crash. TFS 13324 – Fixed in v20.3.0, but also delivered as a Hot Fix here and in v20.2.1.
Loading a .tex causes a crash	Loading a *.tex (text annotation template file) into a template causes CM4D to crash. TFS 12546 – Fixed in v20.3.0, but also delivered as a Hot Fix here and in v20.2.1.

DataUtility

Corrected item	What it means
DataUtility Crashes	DataUtility is unstable and crashes while performing searches or editing. TFS 13160 – Fixed in v20.2.0, but also delivered here as a Hot Fix.
DataUtility does not allow changing a Feature Label	Changing a Feature Label in DataUtility causes an error message about duplicate Feature labels, when no duplicate Feature exists. TFS 13715 – Fixed in v20.3.0, but also delivered as a Hot Fix here and in v20.2.1.

v20.1.8

Program Fixes

CM4D Classic

Corrected item	What it means
Occasional crash when assigning a Cause	When assigning a Cause, CM4D occasionally crashes. TFS 13323 – Fixed in v20.2.0, but also delivered here as a Hot Fix.

v20.1.7

Program Fixes

CM4D Classic

Corrected item	What it means
Annot DataSource Fix does not work when using Auto Report	When the Annot DataSource Fix functionality is used on a report created with Auto Report, the features are not being converted from using Row Number to using Feature Label and Characteristic. TFS 13115

CM4D Scheduler

Corrected item	What it means
Scheduler jobs can get stuck in queue	Occasionally a job will stay in the queue and get bypassed by other, newer jobs. Workaround: restart Scheduler service. TFS 13193
Scheduler service has an apparent memory accumulation	When monitoring the CM4D Scheduler service, memory gradually climbs. TFS 13194
CM4D Scheduler client has an apparent memory accumulation	When monitoring the CM4D Scheduler client process, memory gradually climbs. TFS 13195

v20.1.6

Program Fixes

CM4D Classic

Corrected item	What it means
Loading a JT file can crash CM4D	Occasional crash when opening a CM4D document. One suspect is trying to use a large JT file. TFS 13182 – Fixed in v20.2.0, but also delivered here as a Hot Fix.

v20.1.5

Program Fixes

CM4D Classic

Corrected item	What it means
Bad format in error string	A configuration issue created an error. When CM4D reported the error, the error string contained bad formatting that caused CM4D to crash. TFS 13180 –Fixed in v20.2.0, but also delivered here as a Hot Fix.

CM4D Scheduler

Corrected item	What it means
Scheduler Service user incorrect	The setting for Service User in the CM4DScheduler.settings file is not used when scheduler is run. Rather than running the Service as the user defined in the settings file, Scheduler was using the Windows Login user that was running the Service. TFS 13101

DataSmith Batch

Corrected item	What it means
DataSmith Batch is not automatically refreshing when Jobs added	Any time a Job is added to DSBatch, the DSBatch service needed to be restarted. This was only occurring with <i>DataSmithBatch.Settings</i> files that were migrated (from versions prior to v19) using the 4jMigrator.exe tool. Due to a case-sensitivity conflict with the migrated file name, the DS Batch service was not detecting changes to the settings file automatically. When the service was restarted, however, the changes were detected and applied. TFS 13061
Datasmith Batch Accumulates Memory	Translator documents used by DS Batch are not being shut down after use. Each time new data is processed, a new instance of the translator is opened, causing the memory use to multiply according to the size of the translator files and the amount of data being processed. TFS 13102

v20.1.3

Program Fixes

DataSmithBatch

Corrected item	What it means
Batch settings file not editable	The batch settings file xml can not be edited in an outside editor such as notepad. TFS 12800 - Fixed in v20.2.0, but also delivered here as a Hot Fix.

v20.1.1

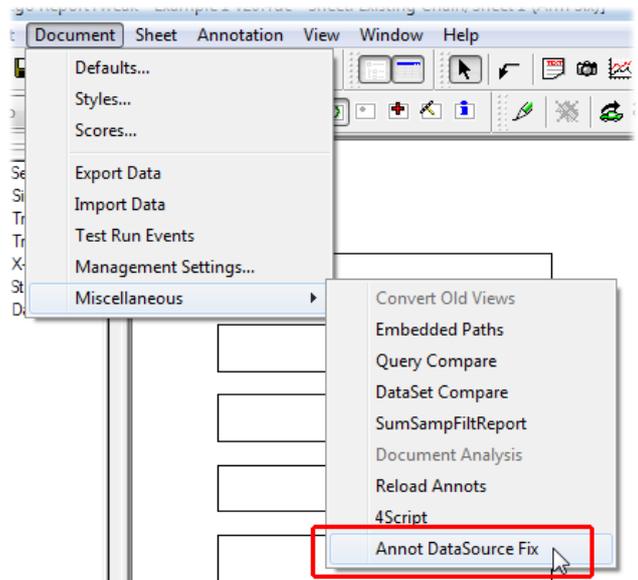
New Features

CM4D Classic

1. Annot DataSource Fix

Functionality that previously existed in the Report Tweak Analysis dialog is now moved to its own dialog, called Annot DataSource Fix. Using this dialog, alternate features are found based on two search parameters:

1. **Routine label** – the Feature has the same label, but is in a different Routine
2. **Feature labels** - the Feature is set to use a label that begins or ends with 'L' or 'R', and a new Feature has a label that begins or ends with the other. For example, if the current Feature label begins with an 'L', then we will look for a new Feature that has a label that begins with an 'R'.



This functionality is particularly useful when it is paired with the Mirror Annot operation to make building reports for Left and Right handed parts easier. In a report that is set up to use Left Handed features, you can use the Annot DataSource Fix dialog to replace all Left features with the corresponding Right Handed features.



To access this dialog:

1. Select **Document > Miscellaneous > Annot DataSource Fix**.

Annot DataSource Fix											
Existing Text	Sheet	Annot	DataSet	Use	Set Row	Set Feat	Set Chr	Res Row	Res Feat	Res Chr	Alternate
1	Sheet 1	Text	7	Single	Feat	AR-122-L	Position	1			AR-122-R
2	Sheet 1	Text	1	Single	Feat	AR-126-L	Position	2			AR-126-R
3	Sheet 1	Text	2	Single	Feat	AR-127-L	Position	3			AR-127-R
4	Sheet 1	Text	3	Single	Feat	AR-122-L	Position	1			AR-122-R
5	Sheet 1	Text	4	Single	Feat	AR-126-L	Position	2			AR-126-R
6	Sheet 1	Text	5	Single	Feat	AR-127-L	Position	3			AR-127-R

2. Click the **Fix** button.
3. The Set Features are replaced by the Alternate Features:

Annot DataSource Fix											
Existing Text	Sheet	Annot	DataSet	Use	Set Row	Set Feat	Set Chr	Res Row	Res Feat	Res Chr	Alternate
1	Sheet 1	Text	7	Single	Feat	AR-122-R	Position	1	AR-122-R		
2	Sheet 1	Text	1	Single	Feat	AR-126-R	Position	2	AR-126-R		
3	Sheet 1	Text	2	Single	Feat	AR-127-R	Position	3	AR-127-R		
4	Sheet 1	Text	3	Single	Feat	AR-122-R	Position	1	AR-122-R		
5	Sheet 1	Text	4	Single	Feat	AR-126-R	Position	2	AR-126-R		
6	Sheet 1	Text	5	Single	Feat	AR-127-R	Position	3	AR-127-R		

- Click Close to return to the report.
- Note the previously empty annotation are now populated with the corresponding Right Hand features.



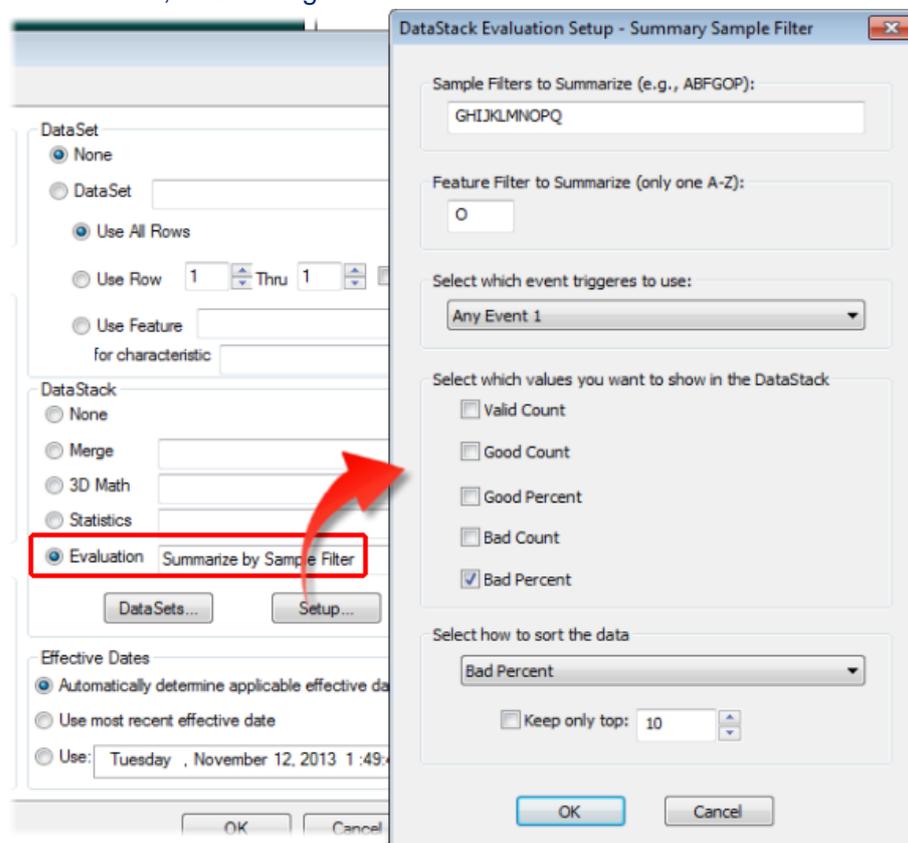
The Annot DataSource Fix option is only available for annotation that have a DataSource that selects the Feature by label, not Row number. To change the annotation from Row number to Feature, click the Convert button.

DataSet X-MR
 Use All Rows Modify...
 Use Row 3 Thru 3 SheetSync
 Use Feature AR-126-L ^ Legoman ^ BH
 for characteristic Position

TFS 12465

2. DataStack Evaluation – Summarize by Sample Filter

A new Evaluation type has been added to DataStacks: **Summarize by Sample Filter**. This evaluation summarizes stacked data based on the Sample Filters used. The Setup for this evaluation includes one or more Sample Filters (A-Z), one Feature Filter (optional), event triggers, values based on tolerance, and sorting.

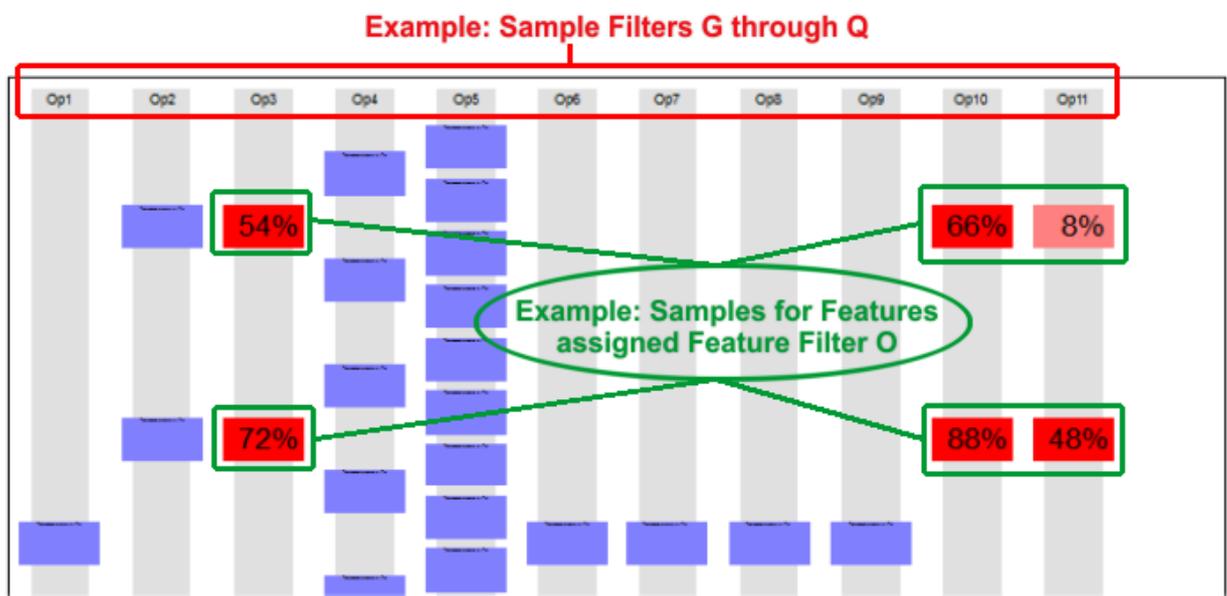


Please note: The Feature Filter is optional. If a Feature Filter is not specified, then all 'columns', or Sample Filters, are accumulated.

3. Summary Sample Filter Report

A new report building tool has been added to CM4D to be used in conjunction with the Summary of Sample Filters DataStack Evaluation. This report will display a summary analysis of a part as it relates to the Sample filters assigned. Sample Filters will be laid out across the sheet in columns, with each Sample Filter value being a row in that column.

If a Feature Filter is designated in the DataStack Evaluation setup, then only samples that use that Feature filter will be used in the summary report. If no Feature filter is indicated, then all samples will be used in the report.



One use case for this type of report may be of a manufactured part that progresses through a number of tasks, where each task may be performed by any one of a number of machines. If each task is assigned a Sample Filter, and each machine is designated as a value for that Sample filter, then CM4D can use that data to track the progress of the part through the system. The Summary Sample Filter Report provides information about each machine in the process, giving you a percentage of parts made by that machine that are within tolerance specifications.

To build a Sample Filter Summary report:

1. Create one annotation, which will be used as the template for creating all the other annotation needed to create the report.
2. Assign a DataSource to the annotation that uses the new evaluation type Summarize by Sample Filter.
3. Place it so that there is enough space above and below, as well as to the right, to accommodate all of the resulting annotation. Don't worry if you don't know how big your report will be, you can always re-run the report using any one of the annotation.
4. Select the annotation.
5. From the Document menu, select **Miscellaneous > SumSampFiltReport**.
6. When the Done message appears, click OK.

TFS 12364

Program Fixes

CM4D Classic

Corrected item	What it means
New picture annot failed to load when extension is upper case	If Picture annot file names have uppercase extensions (e.g., JPG or BMP), the image file will fail to load. TFS 12180

DataUtility

Corrected item	What it means
Delete Routine from Data Utility Not Working Correctly	When the routine is deleted from Data Utility and the Remove Deleted items is executed the routine information is still contained within the ManagedRoutine table. SOLUTION: To clean up the ManagedRoutine table, the managed document that uses the deleted Routine must be opened, changed to use a different Routine, and then re-saved. TFS 11999

v20.1.0

General Release Notes

- Database Schema: 20b-20a
- New version of 4jMigrator: previously migrated 4jr or 4jx files must be re-migrated as a result of program fix #12150.
- Documents containing grouping that have previously been upgraded to either v16.7 or v20.0 must be re-upgraded as a result of program fix #12168.

New Features

CM4D Interactive

Sticky Reports

A new mechanism has been added to CM4D Interactive that allows you to make small adjustments to your standard reports and save the modified arrangement for recall in a future session of CM4Di. These saved custom reports are called **Sticky Reports**.

Similar to modifying templates in CM4D Classic, Sticky Reports greatly increase the flexibility of the CM4Di's dynamic reporting. Using Sticky Reports you can select different chart types, modify report layouts, change view orientations, and save how the data is loaded.

A Sticky Report may be saved for all users, a single user, or a specific group of users.

TFS 10193

Program Fixes

CM4D Classic

Corrected item	What it means
Scaling issue from 16.5 to v20	Even with the scaling fix in v20, [customer] is seeing an issue with their Title Block Logo when opening a 16.5 template in v20. TFS 11990
IMR Chart and X-Bar Chart Hover over point	The mouse cursor in an IMR or X-Bar chart does not change or show the value/info in the bottom status bar when hovered over points in the charts. TFS 11997
Fix Scale Results in bad scale value	When using the Fix Scale button on the Annot Properties Dialog the value in the Scale text box gets [corrupted]. TFS 12033
2D images do not display	When using the example Housing data, the 2D image does not display. TFS 12055
PCL Viewer Crash	When viewing a change in the PCL Viewer, an error message is displayed. On clicking OK, CM4D crashes. TFS 12073
New Picture button does not work	Cannot create new picture [annotation]. TFS 12091

Corrected item	What it means
Constructed Features Loop infinite	If a constructed feature has itself as a reference, causes loop. TFS 12113
DataStack with Summarize by Sample Filters causes a crash	DataStack with Summarize by Sample Filters causes a crash if the "Keep only top" option is turned on, and the set value is higher than the number of resulting columns in the DataStack. TFS 12130
Grouping resolve error for documents migrated to v20	When templates that use group objects are opened in v20, the groups do not resolve without ungrouping first. The groups remain unresolved when the template opens up. TFS 12168 - Any documents containing grouping that have previously been upgraded to either v16.7 or v20.0 must be re-upgraded using v20.1.

DataSmith

Corrected item	What it means
External Processing field	The field for the External processing is out of place TFS 11998
Migration of 4JR files to XML format causing instruction formatting issues	When 4jr documents are migrated to 4jx or 4DataSmith file types, certain instruction strings are not being converted correctly, causing incorrect values to be read from data files. TFS 12150 - A new version of 4jMigrator has been released. Any previously migrated 4jr or 4jx files must be re-migrated in v20.1.

DataSmith Batch

Corrected item	What it means
DataSmith Batch Access Violation	DataSmith Batch crashes when feeding in a specific datafile. File processes successfully while manually processing via DataSmith, but processing via Batch results in an Access Violation Error. TFS 11917

Other

Corrected item	What it means
Routine Hand it is not reflected in database tables	If you change the Routine Hand it is not reflected in both the SiteRoutine Table & the Plant DB Routine table TFS 12001

Known Issues

CM4D Interactive

Creating a "Locate Routine" profile for a specific group does not always make the profile available for all members of that group.

v20.0.0

General Release Notes

- ATS Licensing has been implemented as of v20. All ATS CM4D applications will now use the ATS Licensing application provided by ATS. Earlier versions of ATS CM4D will continue to use existing license mechanisms.
- New splash screens and application icons have been added for the primary CM4D Application modules.
- ATS CM4D Versioning will now follow the following format:

Example - v20.2.1.5			
Major Release	Patch Release	Hot Fix	Test Version
20	2	1	5

New Features

CM4D Classic

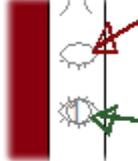
1. Altered Array Sheet

Functionality has been added that allows you to temporarily modify the appearance and arrangement of sheets within the Array Sheet. This may be particularly useful when organizing data throughout a SheetSet with a large number of Sheets.

 These alterations are for display purposes only. When the Array Sheet is printed, the natural, unaltered arrangement is used.

To use this functionality, toggle ReportTweak mode and begin altering the Array Sheet:

- **Hide/Show Sheets** - Sheets can be hidden while working with the Altered Array Sheet. Hidden sheets will be indicated by glyphs in the sheet margins. The Hide/Show options can also be accessed by right-clicking on a Sheet label in the Sheets Tree.



Click to Hide this sheet



Click to Show Hidden Sheet to the Left
- **Move Sheets** - Drag a sheet and drop a sheet into a new position within the Array sheet. An indicator cursor will show where the sheet will be moved.



When changes have been made to the Array Sheet, the desktop background in the Display area of CM4D will turn red. Once ReportTweak mode is turned off, any alterations to the appearance of the SheetSet will revert to the last saved state and the desktop will turn back to green.

Sheets Tree

When ReportTweak is enabled while viewing the Array Sheet, the Sheets tree will change to show the Altered Array Sheet. The "Sheets" node will be renamed "Altered Array Sheet". From the Altered Array Sheet tree, you can show or hide sheets by right-clicking on the sheet label and selecting one of the options from the context menu.

To restore the last saved arrangement of your SheetSet, right-click on the SheetSet Label and select Reset all sheets in array.

TFS 10198/10199

2. E-mail Sheet

Functionality has been added to print the current report to a PDF and attach it to an e-mail. As with standard CM4D printing, whatever is in your main display region will be printed (view the Array Sheet to print entire report).

- E-mail Sheet may be accessed either from the Print menu, or using the e-mail (✉) button.
- An e-mail client must be installed on the machine that CM4D is running on in order for the e-mail sheet option to work.
- E-mail Sheet is also available in CM4D Interactive and CM4D Workcell.

This functionality uses a built-in PDF writer. However, this is not used for printing reports via CM4D Scheduler or WTC, so you will still need an alternative PDF writer (such as eDoc PDF Printer) to print your reports.

TFS 10190

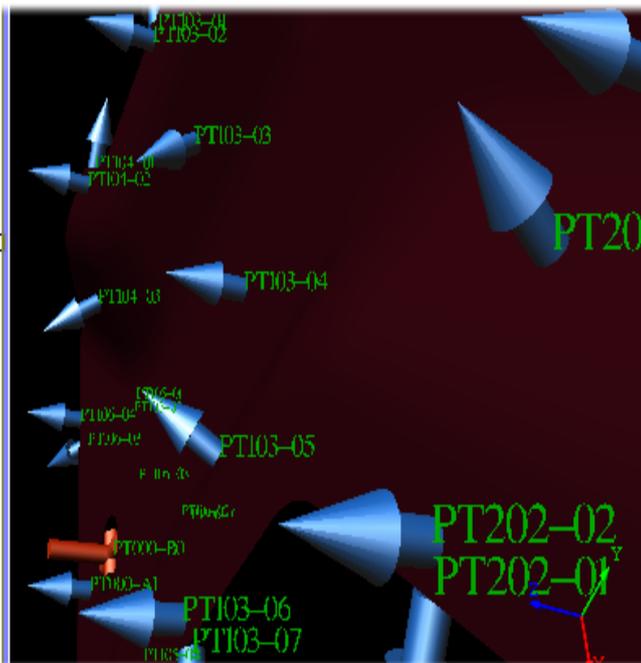
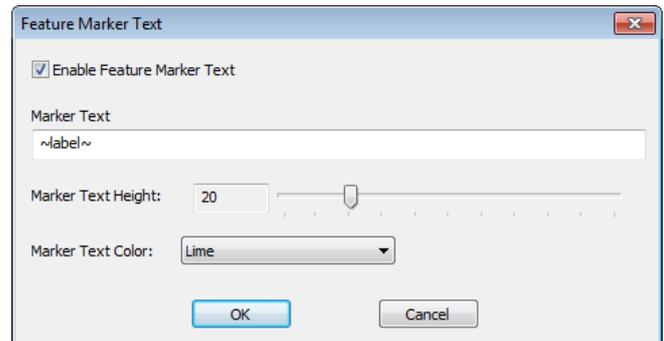
3. Feature Marker Text

3D Views have been enhanced to display text with the existing feature markers that identify the feature while the View is in Edit Mode. The Marker Text will rotate and scale with the view.

Feature Marker text can be enabled or disabled. To set the properties of the Feature Marker text, use the View Annotation Properties dialog.

Feature Marker Text can use variables to resolve the following Feature information:

- Feature Label
- Feature Description
- Feature Alias
- Feature Sequence

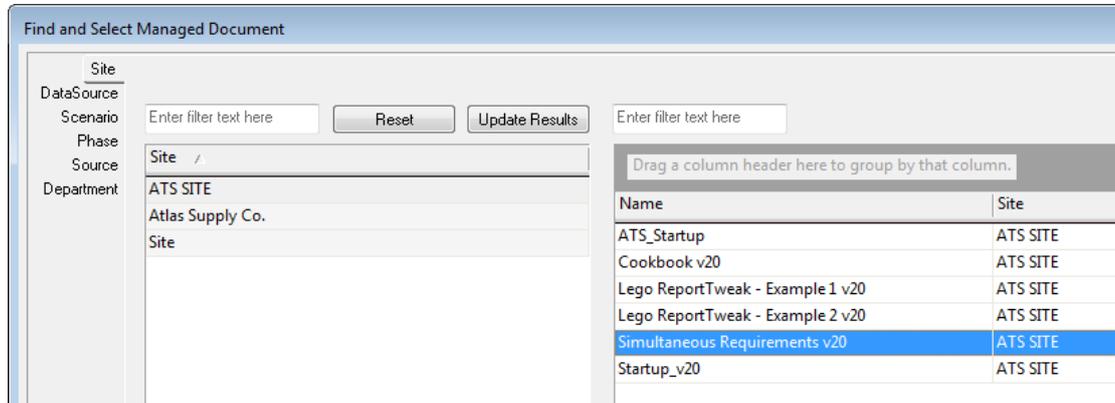


Feature Marker Text will also be displayed in CM4D Interactive, when a View is in Edit Mode, provided Marker Text for that view is enabled in the CM4Di Startup Template.

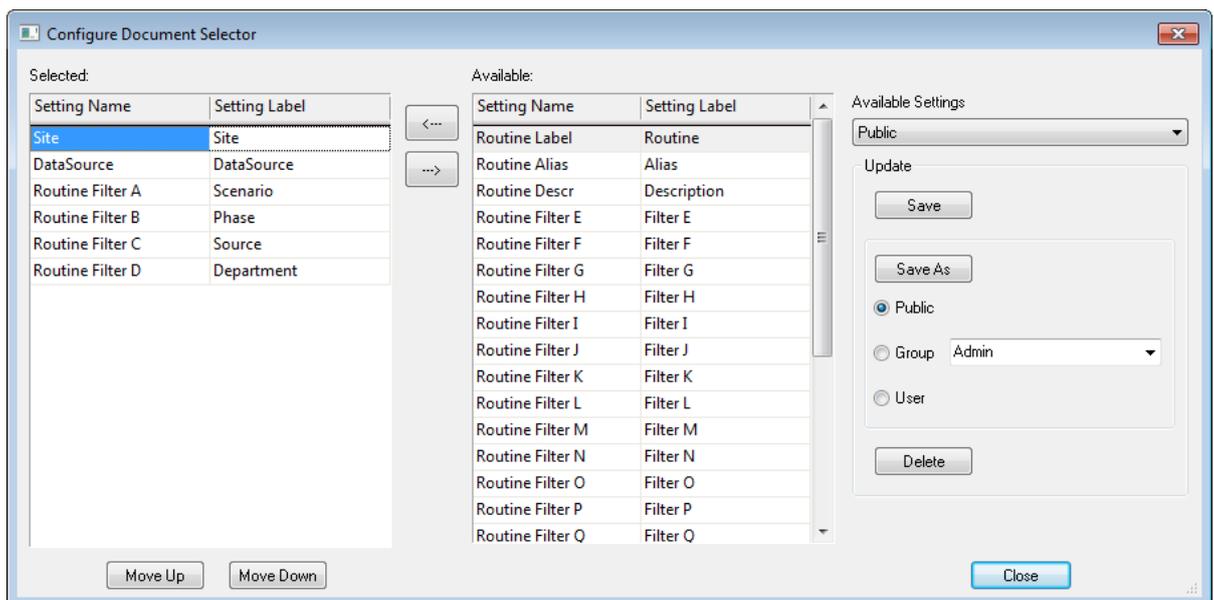
TFS 10195

4. Managed Document Selector

An interface has been added to allow for advanced drilldown and filtering of Managed Documents. Managed Documents may be searched for and sorted by Site, DataSource, Label, Filters, and more.



The first time you select Open Managed Document, you will be prompted to configure the Document Selector. The configuration settings (**File > Document Selection Settings**) may be saved as Public, for a particular Group, or for the current User.



TFS 10192

5. Mirror Annot

An option has been added to the ReportTweak functionality that allows you to mirror the selected view and all annotation that are connected via leader lines.

TFS 10152

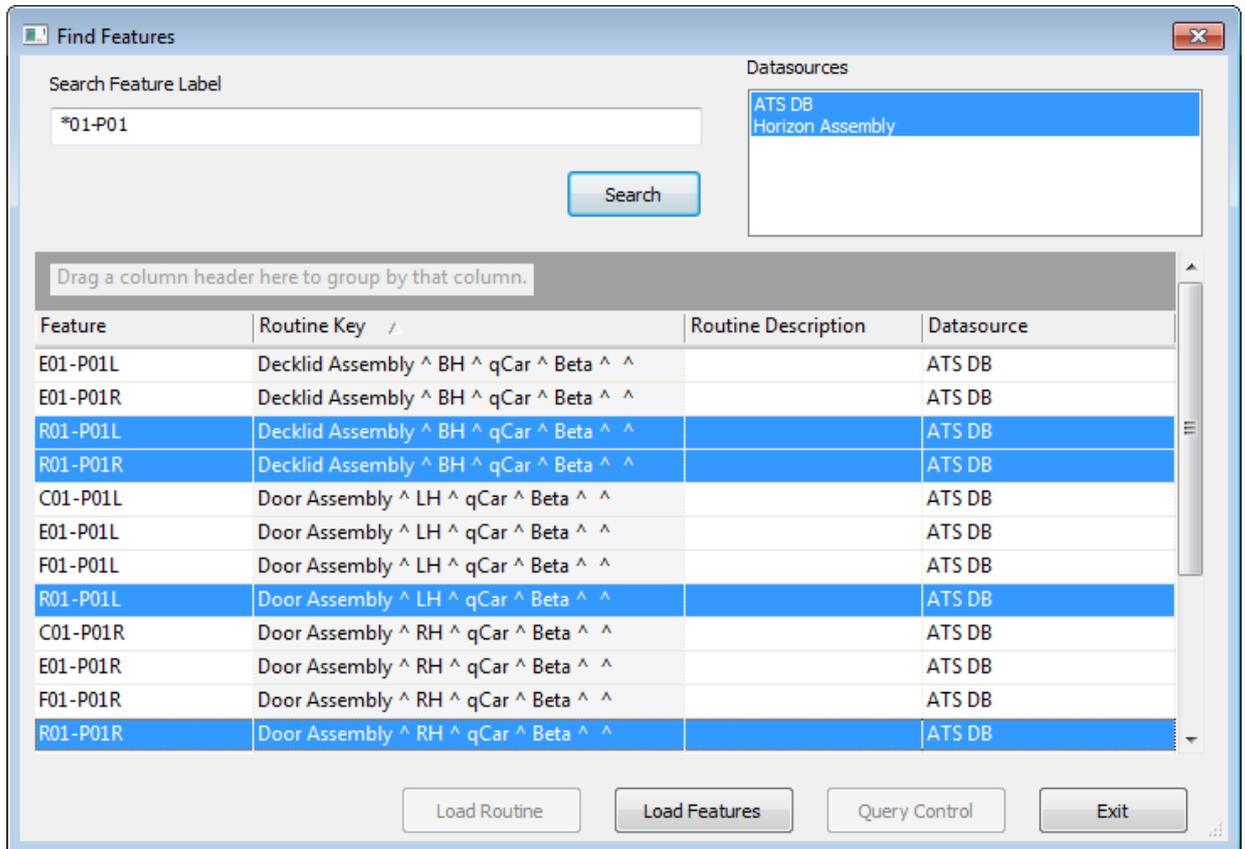
EV 7668

CM4D Interactive

6. Find Features

New functionality has been added to CM4D Interactive to allow you to find features from multiple Routines without loading any Routines from the Database.

To access this dialog, right-click anywhere within the yellow Nav tree and select “Find Features” from the context menu.



Features from multiple Routines can only be loaded into the report if they are from the same DataSource.

TFS 11515

CM4D Workcell

7. Restore Workcell

Workcell functionality has been restored in v20.

TFS 10805

CM4D API

8. Managed Document API

API functions have been added to provide access to Managed Document properties.

- **QaSiteConfiguration** – ID, Code, Label, UNC Path, etc.
- **QaManagedDocument** – Filename, Name, SiteID, etc.
- **QaEventChoice** – ID, ManagedDocumentID, etc.
- **QaReportChoice** – ID, ManagedDocumentID, SheetLabel, Report Label, etc.
- **QaManagedRoutine** – RoutineID, DataSourceID, RoutineLabel, etc.
- Plus some new **QaDoc** extensions

TFS 10188

9. Image API

API functions have been added to provide access to 3D views, Document and Routine images.

- **Qalimages** is a list object that provides access to a Document or Routine image list.
- **Qalimage** is an object that represents a single Document or Routine 3D view image. All properties can be retrieved and set except for the Label property.

TFS 11764

 Please refer to the ATS CM4D Help Documentation for a complete list of API Object Properties and Methods.

Program Fixes

CM4D Classic

Corrected item	What it means
Subroutines do not load	When a Subroutine is created via DataSmith, it does not load into a new CM4D doc. TFS#11340
Annot Table with Show DataSet does not show correct data	When "Show DataSet" is used in an Annot Table, the Text of the cell is not displayed - only the value. This can happen for various DataStack types, or when using special formatting. TFS#11485
Cannot select Restricted Filters in 64 bit CM4D	Restricted Filters could not be selected when running CM4D in 64-bit. TFS#11487
DataStacks do not retain Event status from sub-DataSets	When building a DataStack, it is not possible to fully evaluate Events as in the sub-DataSets. In particular, with the "Merge" DataStacks, the Event status from the sub-DataSets should just come through. TFS#11559
Migrated customer documents will not open in 64-Bit CM4D	Opening templates migrated from v15.2.903 in 64-bit CM4D results in crash. TFS 11703

CM4D Interactive

Corrected item	What it means
CM4D Classic launches if Startup document is not found	If the CM4Di Startup document cannot be found, Classic would open. Now, the launch of CM4Di will abort. TFS 10821

CM4D Scheduler

Corrected item	What it means
CM4D creates invalid report file name	Fixed migrated from v17.1: Scheduler DataSources were added in order to fix resolve issues that were occurring when variables were used in report names. TFS 10175 EV 7747