



COBOL Analyzer 4.0

Release Notes

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COBOL Analyzer Release Notes - Version 4.0

These release notes contain a summary of the major features of Micro Focus COBOL Analyzer Version 4.0, as well as late-breaking information about the product.

Before using COBOL Analyzer, please read the *Getting Started* manual in the online help to gain an understanding of the user interface and tool metaphor. For more detail on the behavior, usage and limitations of COBOL Analyzer, please refer to the online help.

What's New

COBOL Analyzer Product Enhancements

COBOL Analyzer product enhancements listed below include switching to analyzing sources in-place rather than creating a copy in the workspace, enhancements to the usability of Code Search Reports, new features to help in the creation and setup of workspaces from existing IDE projects, as well as many enhancements to the Web client.

In-place Registration

Registered source files are no longer copied into the workspace folder. Analysis is performed for the sources that are in the original location from which they were registered. For workspaces upgraded from previous versions, source file registration will remain as before with the sources being copied to the workspace folder.

The Batch Refresh Process (BRP) now has a new setting to work with in-place registration. When creating the BRP for a workspace (from the Administration tool, **Administer** > **Configure BRP**), there is a new setting called **Location of source files** in the General tab of the BRP Configurator. The value must be the root folder that contains all of your sources to register. Then running the BRP for the first time will register and analyze all sources in the specified folder and subfolders. After the initial registration, running the BRP will update the sources the same way as the Source Synchronization feature. Note that the Prepared Sources folder in the BRP is no longer used for new workspaces that use in-place registration. The BRP in workspaces upgraded from previous versions will continue to function as before.

New Reporting Framework

A new start page for Code Search Reports makes it easy to see and run the various migration and quality reports that are included with the product. The reports are grouped into categories. You can choose to run a report from the start page, or you can view the details of the report to see which queries are included. New Code Search reports created by users will be shown under the Custom category.

When creating a new Code Search Report, you will notice in the dialog that in addition to the Code Search queries that are available, there is now a Repository Queries tab to switch the query selection view to a list of additional report types that can now be included. This list includes the queries available in the Repository Browser under the **Query Repository** context menu as well as standard reports like the Inventory Report, CRUD Report, and Unresolved Report.

A summary report showing an overview of the report results can now be optionally included in your report when you choose to generate the HTML version of a report. When running a report, check **Generate HTML Report**, and then **Summary Report**.

Enhanced Web Client

The Web client now includes the full repository browser display, so it is no longer required to search before seeing objects in the browser. Other enhancements include the addition of the Code Search Reports feature into the Web client, improved display of source files, Impact Analysis that is available when clicking on a variable in the source display, and other user experience improvements.

New Standard Search Facility

A new fast and easy to use source file text search feature replaces the previous Legacy Search feature. Text search results will now be shown in the browser and will include each line that matched the search pattern. Access the new feature from the **Search > Find** menu with the focus on the browser.

Easy Addition of Compiler Directives

When registering `.dir` files, the **Compiler Directives** options will now be automatically populated with a value for the registered file. The directives to use the included directives file will be unchecked by default.

The directives within a `.dir` file can now also be added to the options automatically without registering the `.dir` file. From the **Workspace** menu, choose **Add Directives from files**, and select a file with the `.dir` extension. All directives from the file will be added automatically to the Compiler Directives option. The directives will be unchecked by default.

Workspace Creation from Visual Studio Project Files

The Workspace Build Wizard now includes the option to import sources and properties from a Visual COBOL project. In the step to add sources to the new workspace, there is a new radio button called **Import sources and properties from Visual COBOL project** with a field to navigate to the `.cblproj` file. The workspace will then be created with the sources included in the project and with the detected settings.

Other Enhancements and Changes

- A new migration report for IBM PL/I to Open PL/I
- An improved display of business names in various views
- Enhanced PL/I support including macro pre-processor
- Enhanced ACUCOBOL support
- External variables support for COBOL
- Relaxed parsing with the Micro Focus COBOL compiler
- Change Analyzer performance has been improved and can now be run in batch with no limit on the number of starting points
- Improved source file registration performance
- Improved usability for long running searches and reports
- A **Search for query** field in the Advanced Search dialog has been added to quickly find Code Search queries based on the name
- The folder selection dialog has been added to several more features to improve the user experience
- The Windows Server 2016 is officially supported
- Microsoft SQL Server 2014 is officially supported
- The version of SQL Server Express that can be optionally installed by the CA installer is now SQL Server 2014 Express. Previous versions included SQL Server 2008 Express and SQL Server 2012 Express.

Upgrades from the Previous Version

All workspaces must be upgraded after installing COBOL Analyzer 4.0. Before upgrading, we recommend that you contact SupportLine for the latest COBOL Analyzer updates. SupportLine is also available to give guidance on best practices for workspace upgrades. Before performing the upgrade on important workspaces, be sure to back up the database and the workspace folder along with the `.rwp` file. If you experience any issues or errors with the workspace upgrade process, please contact SupportLine with a description of the problem and include the contents of the `Upgrade` folder from the workspace as an attachment.

Updating the CA Web Client

After installing COBOL Analyzer 4.0, follow these steps to continue using the CA Web client.

1. Stop the Apache Tomcat service.
2. Delete CAWeb.war and the CAWeb folder from C:\Program Files (x86)\Apache Software Foundation\Tomcat\webapps.
3. Delete everything in the ... \Tomcat\temp folder.
4. Delete everything in the ... \Tomcat\work\Catalina\localhost folder.
5. Copy the CAWeb.war file from [CA install directory]\Web Client into the ... \Tomcat \webapps folder.
6. Start the Apache Tomcat service.
7. In the properties for the COBOL Analyzer Web Service, go to the **Log On** tab, choose **This account** and enter the account of a user with access to CA and the workspace.
8. Restart the COBOL Analyzer Web Service.



Note: The browser clients might need to hard refresh the CA Web page with **Ctrl+R** to get the latest version.



Note: Due to an incompatibility between Java 8 and Tomcat 6.0, you might need to uninstall Tomcat 6.0 and install the Apache Tomcat 7.0.62 that is included with the CA 4.0 installer.



Note: When using CA Web in Internet Explorer, disable compatibility mode.

Updating the Eclipse Plugins

Follow these steps after installing CA 4.0 to continue using the Clipper View and Search Assistant plugins.

1. On the CA server, in the properties for the COBOL Analyzer Web Service, go to the **Log On** tab, choose **This account** and enter the account of a user with access to CA and the workspace. Restart the COBOL Analyzer Web Service.
2. Open Eclipse or Enterprise Developer on the client machine.
3. Go to **Help > About Eclipse**.
4. Click the **Installation Details** button.
5. Select **COBOL Analyzer Access** and click **Uninstall**.
6. Click **Finish** and when prompted, restart Eclipse.
7. When Enterprise Developer/Eclipse opens again, click **Help > Install New Software**.
8. Click the **Add** button next to the **Work with combo** selection.
9. Click **Archive** and point to the `CAIntegration.repository.zip` file in `[CA install directory]\Bin`. Then add a name in the **Name** field and click **OK**.
10. In the Install window, check the box for **COBOL Analyzer Access**. Click **Next**.
11. Click **Next** again.
12. Accept the license agreement and when prompted, restart Eclipse.

Resolved Issues

The numbers that follow each issue are the Support Incident Numbers followed by the Reported Problem Incident (RPI) number (in parentheses).

- *CA - Administration*
- *CA - Analysis*
- *CA - Analysis - HyperView - Clipper*
- *CA - APM*
- *CA - Backend*
- *CA - Backend - Analysis*
- *CA - Backend - Analysis - Cobol*
- *CA - Backend - Analysis - Cobol - Advanced*
- *CA - Backend - Analysis - DDL*
- *CA - Backend - Analysis - EmbeddedSQL*
- *CA - Backend - Parsing - Cobol*
- *CA - Backend - Parsing - Cobol/ACU*
- *CA - Backend - Parsing - Cobol/MicroFocus*
- *CA - Backend - Parsing - Cobol/OSVS*
- *CA - Backend - Parsing - DDL*
- *CA - Backend - Parsing - EmbeddedSQL*
- *CA - Backend - Parsing - VB*
- *CA - Batch Duplicate Finder*
- *CA - Batch Refresh Process*
- *CA - Business Rules*
- *CA - Change Analyzer*
- *CA - Diagrammer*
- *CA - Documentation*
- *CA - CAWeb*
- *CA - ED/VC Integration*
- *CA - HyperView*
- *CA - HyperView - Clipper*
- *CA - HyperView - Flowchart*
- *CA - HyperView - Impact*
- *CA - IDE*
- *CA - IDE - Activity Log*
- *CA - IDE - Options*
- *CA - IDE - Workspace Operations*
- *CA - Reports*
- *CA - Reports - Portability Assessment*
- *CA - Reports - Verification Report*
- *CA - User Interface*

CA - Administration

- When creating a workspace, you will now get a warning message if there is more than one schema in the database or the current schema is not equal to the one in the database.
3150352 (1113606)

- TLS 1.2 is now supported.
3147792 (1113421)
- An issue when creating a workspace using SQL Server authentication has been fixed.
3121179 (1110908)

CA - Analysis

- Adding missing DCLGEN copybook files without the DCLGEN prefix invalidates COBOL files now. Adding missing DCLGEN copybook files with the DCLGEN prefix no longer invalidates COBOL files.
3114086 (1110214)

CA - Analysis - HyperView - Clipper

- A new implementation allows you to perform joins between entities in a Code Search query. String attributes can be joined using operators - Matches Attribute, Does not match Attribute, while integer attributes can be joined using "= attribute" and all the other operations that are available > < >= <= <> (with the word "attribute" added after the operator. When defining such join, the left side is always represented by the current entity while for the right side any of the entities that have already been defined can be selected up till the current line. There is a special name that's shown along with each of the entities and helps you distinguish between the entities.
3116687 (1110447)

CA - APM

- Performance for the Change Traffic metrics process has been improved. Use the new ImportExternalMetrics.bj in Scripts\BRP to import the metrics XML file now instead of the EV import method.
3137835 (1112432)

CA - Backend

- Source files are now registered in-place.
2885413 (1108064)

CA - Backend - Analysis

- COPY statements now correctly appear in a generated program slice using Logic Analyzer.
3133228 (1112015)
- Superfluous 01 levels items are no longer added to the sliced sub program in Logic Analyzer.
3132421 (1111941)
- There are no longer superfluous characters added beyond col 80 when using Logic Analyzer to create a slice.
3132419 (1111940)
- An issue that caused compilation errors due to syntax changes of conditions for IF statement in Logic Analyzer slices has been fixed.
3132418 (1111939)
- Periods are no longer removed when creating slices with Logic Analyzer.
3132417 (1111938)
- The SET statement is now correctly handled using Logic Analyzer for slicing a program.
3132415 (1111937)

CA - Backend - Analysis - Cobol

- The following characters are no longer marked as defects in the Embedded HEX Report: "_", "[", "]", "\".
3124397 (1111191)
- An issue that caused a verification error when the NSYMBOL(DBCS) directive was used with files that have national (N) constants has been fixed.
3123618 (1111111)
- An issue that could cause a critical error when verifying has been fixed.
3123449 (1111092)
- An issue where the READY TRACE command was causing a verification failure has been fixed.
3117591 (1110530)
- An issue where the READY TRACE command was causing a verification failure has been fixed.
3116953 (1110471)
- The problem with missing host variables in SQL IN clause has been fixed.
3114091 (1110258)
- The performance of the Data Flow diagram in Interactive Analysis has been improved for large workspaces.
3112983 (1110295)

CA - Backend - Analysis - Cobol - Advanced

- An issue in Generic API Analysis that required offset and size values when using type = 'name' has been fixed.
3109718 (1109770)

CA - Backend - Analysis - DDL

- A crash when verifying certain COBOL files with the "Use Database Schema" embedded SQL option enabled has been fixed.
3137821 (1112434)

CA - Backend - Analysis - EmbeddedSQL

- An issue where the isIndexed attribute was not being set to True has been fixed. Make sure the option in Workspace Options > Verification > Settings > COBOL > Embedded SQL More... > Use Database Schema is enabled.
3140946 (1112763)

CA - Backend - Parsing - Cobol

- Support has been improved for picture clauses with dashes and 'Z'.
3152887 (1113821)
- An issue where an internal error in BRE.dll would be reported for programs using BEFORE/AFTER PROCEDURES in screen element definitions has been fixed.
3137834 (1112431)
- Constants declared in the screen section no longer cause a crash during verification.
3122559 (1111103)

CA - Backend - Parsing - Cobol/ACU

- Several verification errors for the ACUCOBOL dialect have been fixed.
3147578 (1113356)
- The VARYING keyword is now supported with the ACUCOBOL dialect.
3146421 (1113274)
- The END-SEARCH keyword at the end of a SEARCH statement is now supported.
3142870 (1112922)
- An issue that would cause some COPY statements using REPLACING LEADING to report a syntax error has been corrected.
3139155 (1112577)
- An issue with FUNCTION keyword has been resolved by adding it to the synonyms list in the parser.
3138779 (1112530)
- The ACU parser has been changed to allow multiple literals to appear in the FOR ALL clause of the INSPECT statement, and to allow optional END-INSPECT tokens.
3138657 (1112528)
- The parser has been changed to allow 'B' to appear after '-' in a PIC clause in more cases.
3138656 (1112527)
- DATA SIZE and INDEX SIZE phrases in SELECT statements for ACUCOBOL dialect are now supported.
3138653 (1112526)
- The ACCEPT statement in the ACU parser has been changed to allow the ACCEPT FROM LINE variant.
3137972 (1112440)
- A workspace option for ACUCOBOL verification has been added to disable the auto source format detection, since the source code of some may be written in such a way that is difficult to detect if the source format is ANSI or TERMINAL. When the auto source format detection is disabled, only single-format type sources can be used - ANSI, LONG or TERMINAL. To disable the auto source format detection, open the workspace options XML for the workspace, find the "AutoDetectFormat" option and change the VALUE to false.
3133637 (1112111)
- STOP statements now support variables as parameters.
3124249 (1111226)
- A new workspace verification option for the ACUCOBOL dialect called Source Format has been added to support ANSI, Long, and Terminal source formats for ACUCOBOL sources.
3116528 (1110430)
- The Resolve Mixed Formatting Styles option will no longer produce verification errors for having a blank line at the beginning of a file.
3116474 (1110425)

CA - Backend - Parsing - Cobol/MicroFocus

- An issue with the Data File Assignment option for the Micro Focus COBOL dialect being ignored has been fixed.
3136184 (1112418)
- An issue that caused verification errors for a 66 level entry that tries to rename another 66, 77, and 01 level entry when the Micro Focus COBOL dialect is used has been fixed.
3128704 (1111692)

- An issue with Micro Focus COBOL DBCS national data items on Japanese machines has been fixed.
3116390 (1110416)

CA - Backend - Parsing - Cobol/OSVS

- A memory access violation error during verification of a COBOL program has been fixed.
3151459 (1113659)

CA - Backend - Parsing - DDL

- Support for SET CURRENT SCHEMA has been added in the SQL parser.
3142468 (1112916)
- Function-Based Indexes in CREATE INDEX SQL statements are now supported.
3142465 (1112917)
- The ZONE keyword and WITHOUT TIME ZONE for TIMESTAMP is now supported in SQL parser.
3140178 (1112664)
- An issue with CREATE INDEX statements that have the PARTITION clause missing PARTITION BY RANGE has been fixed.
3140175 (1112663)

CA - Backend - Parsing - EmbeddedSQL

- An issue where COUNT being used as a column name caused an 'unknown SQL statement or syntax' error has been fixed.
3151562 (1113759)
- SQL parse issues for LOCK TABLE statements and FOR UPDATE clauses in SELECT statements have been fixed.
3123471 (1111094)

CA - Backend - Parsing - VB

- An issue with resolving missing files during verification has been fixed.
3120166 (1110853)

CA - Batch Duplicate Finder

- An issue that could cause BDF.exe to not work when not run as administrator has been fixed.
3149499 (1113485)

CA - Batch Refresh Process

- Now the variables that write to buffers can be removed using an option in the Change Analyzer settings.
3150236 (1113561)
- The Upgrade.bj for upgrading workspaces in batch has been updated and is now included in the installation directory \Scripts\BRP folder.
3119813 (1110725)
- An issue with the batch script to import Code Searches has been fixed.
3147921 (1113363)
- An issue where invalidating a large number of programs could cause the Oracle UNDO table to grow too large has been fixed.

- 3146538 (1113299)
 - Spaces in the PCF file path are now handled correctly.
- 3145013 (1113117)
 - Setting multiple tags to an object with Derived=True now works correctly when using the ApplyTagsToObjects.bj script.
- 3119776 (1110745)
 - Leading and trailing spaces are now removed from object names/paths and tag names in the TagsObjects input file.
- 3117433 (1110520)
 - New functionality to apply tags to objects in batch similar to BatchTagLoader.exe has been added. Using the new Scripts\BRP\ApplyTagsToObjects.bj file with Brave.exe, you can assign tags to objects from a text file containing the name of the object and the tag. The tag will be created if it does not already exist. If there are homonyms in the workspace, you should include the Source path with the object name. For more information see the description in the ApplyTagsToObjects.bj file.
- 3113276 (1110149)
 - An issue with out-of-memory errors when using ImpactReportFromList.bj with thousands of data items has been fixed.
- 3113269 (1110432)
 - The BRP process will now terminate when there is a database connection error during the verification step, and the verification log will now report the error.
- 3108715 (1109683)

CA - Business Rules

- Two new options have been added: Project Options > Business Rule Manager > Activity Log Options. The default behavior is to not add a rule activity record during import/export/delete. This greatly improves the performance of the operations.
- 3142716 (1112913)
 - Creating rules from a Code Search results list is now faster.
- 3142633 (1112911)
 - The loading time of the Triggering pane has been improved.
- 3140822 (1112740)
 - Ruleset order is set correctly when creating, moving up/down, exporting and importing rulesets.
- 3139319 (1112712)
 - The multiple refreshes during importing and deleting have been reduced to a single refresh.
- 3139260 (1112678)
 - When using the Selected Only button to show only selected rules in the Rules pane, deleting the last rule in the view will now automatically revert the pane to show all rules.
- 3139259 (1112634)
 - The display of the Rules pane has been improved for different screen sizes.
- 3139258 (1112619)
 - The last location used when exporting business rules is now remembered in the Export Rules dialog while the Interactive Analysis window remains opened.
- 3139255 (1112618)
 - The Rules pane disappearing in some scenarios has been fixed.
- 3138736 (1112522)
 - An issue with the Segment Text for paragraphs sometimes being truncated in the Business Rule Report has been fixed.

3138444 (1112523)

- An issue that caused some business names to not be substituted in business rule names has been fixed.

3134645 (1112203)

- An issue that caused some rules to be displayed in the wrong order in the Business Rule Report has been fixed.

3108829 (1109715)

- The Rule Naming Template has been fixed to work for Custom Rule Attributes.

3108312 (1109669)

CA - Change Analyzer

- The batch interface for Change Analyzer has been optimized to support analysis of large sets of sources.

3143199 (1113016)

- A new batch script called ChangeAnalyzer.bj, found in \Scripts\BRP\, has been added to run Change Analyzer in batch. It takes as input a Code Search list populated with data item declarations and generates a report of all affected variables including the impact traces. See the ChangeAnalyzer.bj for details on all required parameters. Note that while the process is running, a progress log file will be created and updated continuously.

3119659 (1110723)

- The deletion of a list element no longer deletes it from all lists.

3110662 (1109870)

CA - Diagrammer

- Attempting to draw a diagram that would previously have been too complex to draw will now present a dialog with the option to either draw a limited diagram that shows 10,000 relationships only and will be generated much faster, or to draw the complete diagram which will take much longer and be unintelligible.

3135904 (1112247)

CA - Documentation

- The Change Analyzer documentation has been updated.

3103653 (1109181)

- MFCobolCLink.bj has been added to the BRP section, under Using Batch Scripts.

2867396 (1105538)

- The ImpactReport.bj documentation has been updated.

2865347 (1105378)

- The batch scripts documentation has been updated.

2672272 (1093927)

CA - CAWeb

- An issue where an attempt to resolve an IP using DNS resulted in an error when connecting to the workspace has been fixed.

3147555 (1113333)

- The context menu for the Web client search results and the online tool Search Assistant results now show only the queries and scopes relevant to the selected object.

3128736 (1111541)

CA - ED/VC Integration

- 64-bit queries have been fixed and improved.

3150713 (1113598)

CA - HyperView

- Program Control Flow diagram is now displayed if the program only contains sections.

3133200 (1112019)

CA - HyperView - Clipper

- Portability Assessment will now correctly show and execute reports added through plugins.

3124316 (1111198)

CA - HyperView - Flowchart

- An issue with business names missing in the Flowchart pane when COBOL declarations have an underscore in the name has been fixed.

3123829 (1111129)

CA - HyperView - Impact

- Impact Analysis through external variables is now supported.

3114625 (1110265)

CA - IDE

- An issue with Change Analyzer not appearing for workspaces created before the product license was installed has been fixed.

3119622 (1110703)

- An issue where files that failed verification with a critical error were shown with a yellow (relaxed) dot has been fixed. The verification status will now correctly show a red dot.

3114071 (1110208)

CA - IDE - Activity Log

- An issue where double-clicking an error in the Activity Log did not point to the line in the source on Japanese machines has been fixed.

3152234 (1113735)

CA - IDE - Options

- Boundary decision options are now available when Java is not configured.

3109987 (1109807)

CA - IDE - Workspace Operations

- An issue that prevented a file from being updated when registering manually in the browser has been fixed.

3114491 (1110299)

CA - Reports

- A new "CALL statements associated with sections" report has been created. In addition, any PA/QA report can be executed separately through batch using the PASingleReport.bj script.

3122696 (1111031)

CA - Reports - Portability Assessment

- The "Run in the background" checkbox is checked by default when running the Quality Assessment report and Portability Assessment report. If you decide to run the report without this option, a message comes up explaining that this can be a long-running process and suggesting that you should run the report in the background.

3137283 (1112382)

- The query executed by Stored Procedure Report has been changed.

3124399 (1111197)

- New attributes have been added to the Unique List of Tables report in the PA report.

3124398 (1111192)

- An issue with the query for the File Usage COBOL Update report has been fixed.

3119950 (1110765)

CA - Reports - Verification Report

- Verification Report now shows errors and warnings on Japanese OS.

3152236 (1113736)

CA - User Interface

- Code Search queries for the Migrate NetExpress to Visual COBOL report and the Performance Optimization report have been translated to Japanese.

2882737 (1110225)

Updates and SupportLine

Our Web site gives up-to-date details of contact numbers and addresses.

Contacting Micro Focus

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Visit Micro Focus SupportLine at <http://supportline.microfocus.com> for up-to-date support news and access to other support information. First time users may be required to register to the site.

Information Needed by Micro Focus SupportLine

When contacting Micro Focus SupportLine, please include the following information if possible. The more information you can give, the better Micro Focus SupportLine can help you.

- The name and version number of all products that you think might be causing an issue.
- Your computer make and model.
- System information such as operating system name and version, processors, and memory details.
- Any detailed description of the issue, including steps to reproduce the issue.
- Exact wording of any error messages involved.
- Your serial number or works order (WO) number.

To find out these numbers, look in the subject line and body of your Electronic Product Delivery Notice email that you received from Micro Focus, or on the box in which the product was supplied, and on the red card supplied in the DVD case .

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