What's New for DATAMINER

DATAMINER 8.2 Enhancements

Release 8.2 Enhancement	Description
DATAMINER Script Wizard (*DATAMINER FOR z/OS*)	The DATAMINER Script Wizard is a 3270-type terminal graphic user interface for creating and running DATAMINER command scripts on z/OS. It provides an alternative to creating and executing standard batch jobs.
Support PUNCH output	The DATAMINER `OUTPUT=PUNCH` and the CA Easytrieve® `FILE filename PUNCH` statements are now supported.
Removed SUM field restriction	Report Writer SUM fields (objects) no longer need to be specified on LINE or CONTROL statements in report definitions. In prior releases, DATAMINER would issue the DMIN316E error message and terminate.
Added numeric rounding option	Numeric field assignments (SET command) can be either rounded or truncated. The system default is rounded.
Support alternative syntax for FILE-STATUS system variable	The alternative `FILE-STATUS (filename)` syntax is supported in addition to the standard `filename:FILE-STATUS` syntax.
PARM and FILE statement support	Existing PARM and FILE statements do not need to be adjusted, modified, or removed. When unsupported or unknown PARM or FILE parameters are encountered, DATAMINER logs a warning message and continues.
WRITE output record length controlled by RECORD-LENGTH variable	When executing a WRITE (or PUT) statement with a FROM operand, DATAMINER now checks whether the RECORD-LENGTH variable is set and, if it is, uses that length for the output record length.
Added WHOLE-RECORD variable	This variable contains the entire input or output record including the 4-byte RDW. It can be used to pass the entire record to a user program called using the CALL command.
Global environment options	Added the following global options.

Option	Description
SYNTAXRC	Sets the return code returned to the operating system when a syntax error is encountered.
EOSMSG	Enables writing an informational message following the last control card echoed and before the script's output begins.
ASSIGN	Sets the assignment configuration to either ROUNDED or TRUNCATED. By default, DATAMINER rounds up with 5 as the rounding factor for all assignments.

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Report column headers and COBOL copybooks	COBOL copybook field names are now used as column headers.

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Field suffixes	Special suffixes can be appended to any record field, user variable, or system variable when referencing the field in a script. The following suffixes will display, print, or return the corresponding field property.

fieldname.LENGTH	Returns the data length of the field.
fieldname.TYPE	Returns the data type: C, B, P, Z, V
fieldname.TYPE2	Returns the field type: R (record) or U (user)
fieldname.POSITION	Returns the position (offset) into the record. Zero if not a record field.
fieldname.FILENAME	Returns the filename containing the field. Blanks if not a record field.
fieldname.RECORD-LENGTH *fieldname*.REFCLEN	Returns the field's corresponding record length. Zero if not a record field.

DATAMINER 8.1 Enhancements

Release 8.1 Enhancement	Description
Multiple JOB and SORT Activities in a Script	Any number of JOB and SORT activities can be placed in a single script.
Virtual File Support	A virtual file manager (VFM) has been implemented to support using virtual files. To access this feature, specify VIRTUAL on the INPUT or OUTPUT command or on the FILE statement.
Compile-Link	This feature allows you to create a load module for later execution. You can then move the load module into a production library, just as you would with CA EASYTRIEVE®. This feature provides a familiar functionality and helps you to control the production environment.
Enhanced CALL command	The CALL command supports calling BY REFERENCE *and* BY VALUE. It also supports 24- and 31-bit subprograms.
Language Environment (LE)	The LE feature establishes the proper execution environment for calling COBOL subprograms. It is used in conjunction with the CALL command and the FILE statement's EXIT facility to provide enhanced performance. It allows called programs to maintain state.
EXIT Parameter Support	Allows input and output records to be modified by a user exit program specified on the FILE statement's EXIT parameter. This feature also allows a user exit program to perform the input and output I/O processing.

Release 8.1 Enhancement	Description

Multiple DB2 Access Methods	DATAMINER provides its own method and syntax for accessing DB2 databases, but this feature adds support for the following automatic DB2 access methods. All methods use the dynamic (not static) SQL interface.
	
	• `JOB INPUT SQL`
	  `SELECT` *select-clause*
	
	• `FILE` *filename* `SQL (`*select-clause*`)`
	  `JOB INPUT` *filename*
	
	• `FILE` *filename* `SQL`
	  `JOB INPUT` *filename*
	  `SELECT` *select-clause*
	
	• `FILE` *filename* `SQL (`*select-clause*`)`
	  `JOB INPUT` *filename*
	  `SELECT` *select-clause*

Variable Length Fields	These fields are supported as they are in CA EASYTRIEVE using the VARYING operand in field definitions. The ":DATA" and ":LENGTH" field suffixes are also supported.
MACRO Support	DATAMINER's MACRO facility • Completely emulates CA EASYTRIEVE's macro facility • Supports inline macros—MSTART, MACRO, BODY, and MEND • Allows you to store and maintain macros in a PDS macro library • Supports macro invocation and parameter substitution
OPTION Command	DATAMINER's OPTION command (or the simulated PARM statement) allows setting parameters for a script run. These include certain options in the Global Options table, which the OPTION command overrides. The OPTION command sets the following parameters: • DISPSPAC[1] • ENVIRONMENT[1] • LINK • SPACE[1] • SYNTAX • VFM[1] [1]Overrides the default set in the Global Options table (see below).
PARM Statement Support	DATAMINER processes the following CA EASYTRIEVE parameters: • COMPILE • LINK(*module-name* [R]) • LIST [FILE|NOFILE] [PARM|NOPARM] • SYNTAX • VFM
CASE Logic Statements	CASE logic statements are supported in scripts.

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NOT Conditional Operator	The NOT operator, which negates an expression in a condition test, is supported in logic statements.
Dynamic Expression Buffer Management	Previous internal limits controlling the size and complexity of IF statements have been removed.
Bitwise Comparisons in Logic Statements	Bitwise comparisons are supported using the ON and OFF operators in condition tests.

FILE-STATUS Value in IF Statements	The FILE-STATUS system variable can be tested in an IF statement in the following ways:
	`IF FILE-STATUS = '000'`
	`IF FILE-STATUS = 0`

ELSE-IF Logic Statement	The ELSE-IF logic statement is supported in scripts. This statement adds a condition test to an IF statement. There is no need to nest multiple IF…THEN…END-IF statements.
Arithmetic Expressions in Conditional Tests	Arithmetic expressions can be used in condition tests in IF, DO…WHILE, and CASE statements. These expressions can include parentheses to control the order of arithmetic operations. For example: `IF var1 EQ (var2 + 'lit')*2  THEN …`
CA EASYTRIEVE's SELECT Inside a REPORT INPUT Procedure	CA EASYTRIEVE's SELECT statement is supported within a REPORT INPUT procedure.
CA EASYTRIEVE's SORT Statement—BEFORE Procedure	The DATAMINER SORT method has its own way of pre-screening or filtering input, but CA EASYTRIEVE's SORT BEFORE procedure is supported.
CA EASYTRIEVE's SELECT Inside a SORT Procedure	CA EASYTRIEVE's SELECT statement is supported within a SORT procedure.
Listing Control Statements	The following control statements are supported: LIST, NEWPAGE, SKIP, PUSH, and POP.
MOVE Command	The MOVE command can move a field to multiple fields.
POINT Statements	POINT statements do a VSAM POINT operation. This replaces the simulated POINT operation. IF statements can test for the FILE-STATUS value after the POINT command.
Subscripts	DATAMINER supports CA EASYTRIEVE's subscripting method for both record fields and user variables. Subscript fields can have these lengths: binary 1–4, zoned 1–16, and packed 1–8.
CSIPKEYS Load Module	The FSIPKEYS load module is renamed CSIPKEYS and contains the product keys issued by CSI International.

Global Environment Options— DATAMINER supports the following options set in the Global Options table. REPORT options set defaults for REPORT subcommands.

Option	Description
BREAK	(REPORT) Set to add/not add separator characters (==) on the line above each report summary line and the final totals line.
COMMA	(REPORT) Set whether commas are included in numeric strings formatted by the M0 standard mask. M0 is the default mask for record fields, table fields, and user variables.
CONT, CONT2	Set a line-continuation symbol that DATAMINER accepts but does not require. For example, '+' and '–' are commonly used in existing programs.
DATE	Set the MMDDYY format of the date string in Report Writer reports and date variables.
DISPSPAC	Set the default spacing between printed fields for the DISPLAY and PRINT/SELECT commands.
DOWN	(REPORT) Set the number of lines allocated for labels.
ENVIRON	Set the LE environment for COBOL programs; used by CALL and FILE EXIT.
EXITRC	Set the user exit return code.
INPXLATE	Set input-card translation program.
LINESIZ	(REPORT) Set report line size.
LIST	List system and file statistics for an activity.
LOCATION	Set the DB2 location value (z/OS only).
MONEY	Set a one-character floating currency symbol ($) in print/display edit masks, both standard and user defined.
PLAN	Set the DB2 plan name (z/OS only).
SCANCOL	Set input card start and end columns.
SCRPTSIZ	Set input-script-card buffer size.
SEPDATE	Set the date separator (/) for the report date string and date system variables.
SORTMSG	Set the level of messages output from your installed sort product whenever it runs.
SORTMSR	Set how DATAMINER routes status messages from your sort product.
SPACE	(REPORT) Set default spacing between printed fields for the LINE and the TITLE subcommands.
SPREAD	(REPORT) Set to spread/not spread report fields evenly across the print line.

Global Environment Options— DATAMINER supports the following options set in the Global Options table. REPORT options set defaults for REPORT subcommands.

Option	Description
SSID	Set DB2 subsystem ID (z/OS only).
SUMCTL	(REPORT) Set report summary-line options.
SUMSPAC	(REPORT) Set number of columns to add to a numeric field's print length on the summary line. This allows large sums to extend into the space to the left of the print field.
TALYSIZ	(REPORT) Set columns for the predefined TALLY variable.
VALIDATE	Set how DATAMINER validates the values of numeric objects during script processing.
VFMDEV	Set memory allocation for the Virtual File Manager.

REPORT Command—Additional Subcommands and Enhancements[1]

Feature	Notes
DTLCTL Subcommand	Controls detail line printing characteristics for a report.
LINESIZE Subcommand	Sets the length of each print line for a report.
NOADJUST Subcommand	Do not center: forces left alignment of the report fields. DATAMINER's default is to center the set of report fields on the page.
SPACE Subcommand	Sets the default number of spaces between report objects specified by the LINE and the TITLE subcommands. SPACE is a synonym for the GAP subcommand.
SPREAD/NOSPREAD Subcommands	Controls whether report fields are evenly spread across the length of the print line in a report.
SUM Subcommand	Directs DATAMINER to SUM the named fields only. It matches CA EASYTRIEVE's SUM option. If this subcommand is omitted, DATAMINER sums all numeric report fields (for DB2) or numeric fields whose definitions specify zero or more decimal places (for other than DB2).
SUMCTL Subcommand	Controls summary-line printing characteristics.
SUMSPACE Subcommand	Sets the number of columns for summed fields in a report.
TALLYSIZE Subcommand	Sets the number of columns for the TALLY variable in a report.
LEVEL and BREAK-LEVEL System Variables	These 2-byte system variables can be accessed within REPORT procedures. LEVEL contains the summary break level, ranging from 0 (for detail lines) to $n+1$ (where n is the break level, and $n+1$ represents the final summary totals). BREAK-LEVEL contains the highest summary break level.

REPORT Command—Additional Subcommands and Enhancements[1]

Feature	Notes
Manage Page Breaks in REPORT Procedures	Makes the REPORT manager aware of lines written in report procedures (that is, page breaks and the like).
REPORT Procedures	Are supported as they are in CA EASYTRIEVE. DATAMINER provides seven specially named REPORT procedure calls.
Print Order of Reports	Reports are printed in the order they are defined (in a script) rather than in alphabetical order (by REPORT name).

[1]For a complete list of REPORT subcommands, see the *DATAMINER FOR z/OS (z/VSE) 8.2.x User Reference and Installation Notes*.