Release Notes for SAS® Fraud Management 6.1_M0, Hot Fix 5

Description	Component	Summary and Business Impact	Test Scenario

The OnDemand Decision Engine fails to start when a rule calls the %hasAnyAuthorizationRuleFired macro.	ENGINE	**Summary:** When a system has many authorization rules in testing or in production, a call to the %hasAnyAuthorizationRuleFired macro might prevent the OnDemand Decision Engine from starting.
		
		The error reported in the SAS® log is as follows:
		`ERROR: The text expression length (65535) exceeds maximum length (65534).`
		`The text expression has been truncated to 65534 characters.`
		
		Business Impact: If the OnDemand Decision Engine does not start, then incoming transactions are not scored. When this happens, fraudulent transactions are not identified.
			After you apply the hot fix, a call to the %hasAnyAuthorizationRuleFired macro is successful and the OnDemand Decision Engine starts successfully.

On Oracle systems, the millisecond values for the RQO_TRAN_TIME and RQO_TRAN_TIME_ALT fields are not preserved when a transaction is inserted into the Transaction Data Repository (TDR) database.	ENGINE	**Summary:** The SAS® OnDemand Decision Engine does not preserve the millisecond values for RQO_TRAN_TIME and RQO_TRAN_TIME_ALT fields when the transaction is inserted into the Transaction Data Repository (TDR) database. Instead, the millisecond value is always 000. Earlier releases of SAS Fraud Management include the millisecond value in the time fields in Oracle. *(continued on next page)*	After you apply the hot fix, the OnDemand Decision Engine preserves the millisecond value for the RQO_TRAN_TIME and RQO_TRAN_TIME_ALT fields in the transactions when the transactions are inserted into the TDR.

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		Business Impact: During peak periods, many transactions can be received in a second. The millisecond values for these fields are required by some customers to ensure correct ordering of transactions when they review alerts. For example, without the millisecond value, the denial of the transaction might appear to have arrived before the pre-authorization.	
A transaction is missing a field value when the OnDemand Decision Engine is configured for UTF-8.	ENGINE	**Summary:** In transactions where the HDF_HTTP_USER_AGENT field has a valid value, the first transaction that is processed by each engine thread after initial start-up does not set the value. Instead, the field value is empty. For all subsequent transactions that are processed by each engine thread, the field value is set correctly by the OnDemand Decision Engine. This issue impacts only systems where the OnDemand Decision Engine is set to the value UTF8. (OSE_SYSTEM_ENCODING = UTF8). **Business Impact:** The impact of this issue depends on the use of the field. The HDF_HTTP_USER_AGENT field includes browser ID and browser type. If this field is used by a model or by rule logic to determine whether a transaction is fraudulent, then fraud might be missed.	After you apply the hot fix, the HDF_HTTP_USER_AGENT field value is set correctly, based on the value in the incoming transaction.
A production rule that you disable in Rules Studio still executes.	RULES	**Summary:** When you disable a rule from the **Rules** tab, the rule should no longer execute. However, when you subsequently disable additional rules, the original disabled rule begins executing again. *(continued on next page)*	After you apply the hot fix, a rule that is disabled from the **Rules** tab remains disabled after you disable another rule.

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		After a restart of the OnDemand Decision Engine, all rules that are disabled on the **Rules** tab stop executing. **Business Impact:** One or more rules that are disabled unexpectedly execute. As a result, unwanted alerts might be created or transactions might be declined.	
The score output for a model is wrongly copied to model output fields for another model.	ENGINE	**Summary:** This issue occurs on systems with different models that are registered at different multi-organizational levels. When one of the models scores the transaction, the model results are copied into the output fields for a subsequent model. **Business Impact:** The transactions that are impacted by this issue contain the score value in the correct score field plus a second score field. The duplicated information does not impact the score value.	After you apply the hot fix, only the score fields for the model that is assigned to the multi-organization matching the transaction are set.
In ASCII fields, carriage return characters are trimmed before the transaction is stored in the Transaction Data Repository (TDR).	ENGINE	**Summary:** In earlier releases SAS Fraud Management, trailing carriage-return characters are not trimmed from ASCII fields before they are written to the Transaction Data Repository (TDR). In release 6.1, those characters are trimmed. The only characters that should be trimmed from the ASCII field values are blank trailing spaces. **Business Impact:** This issue impacts estimations and rule testing. It does not impact rule processing by the OnDemand Decision Engine.	After you apply the hot fix, only blank spaces at the end of ASCII fields are trimmed. All other ASCII characters are preserved.

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Rule results are not shown for all rules that are selected for an estimation.	ESTIMATION	**Summary:** Only rules that have eligible transactions in the Transaction Data Repository (TDR) are displayed in the **Rules** section of the estimation results. **Business Impact:** This issue impacts rule estimations. The results for all rules might not be included in the estimation report.	After you apply the hot fix, statistics for all selected rules are included in the estimation results, regardless of whether a rule has any eligible transactions in the TDR during the estimation time period.
The search function for rules on the **Rules** tab is case-sensitive.	RULES	**Summary:** In earlier releases of SAS Fraud Management, the search feature for rules is case-insensitive. In release 6.1, the search is case-sensitive. **Business Impact:** Rule writers might find it more difficult to find a rule by using the search function. You might need to run both uppercase and lowercase searches to find a rule.	After you apply the hot fix, the rules search feature is case-insensitive.
Sometimes, you cannot see the last few production rules when you use the scroll bar to scroll to the bottom of the page.	RULES	**Summary:** Sometimes, on the **Rules** tab, the last few rules are not visible in the production folder. This issue occurs even though the scroll bar is scrolled to the bottom. To work around this problem, you need to resize the window to a smaller size. Once you do that, the scroll bar appears and you can scroll to the last rule. **Business Impact:** Users must resize the window twice to see all the rules. Doing so might impact the workflow.	After you apply the hot fix, all the production rules are always displayed on the production rules page when you scroll to the bottom. You do not have to resize the window to view the last few rules on the page.

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The Transactional Analysis Server (TAS) does not index custom variables with a numeric prefix.	TAS (GUIDED RULES AND EXPLORE TAB)	**Summary:** User variables and client input variables that have a numeric prefix are not indexed by TAS. Since they are not indexed, the values are not displayed in guided rules or on the **Explore** tab. **Business Impact:** On the **Explore** tab, users cannot filter transactions by user variable and client input-variable values whose names have a numeric prefix. This might make rule development more difficult because users must use another method to see the variable values.	After you apply the hot fix, user variables and client input variables with numeric prefixes are indexed and their values are displayed in both guided rules and on the **Explore** tab.
A memory leak occurs when you refresh the **`Production`** folder on the **Rules** tab.	TAS	**Summary:** The Transaction Analysis Server (TAS) fails to close threads when the **`Production`** folder is refreshed on the **Rules** tab in the web application. This action leads to increased memory use, and it might result in an out-of-memory error. When this condition occurs, the following error is written to the TAS console.log file: `java.lang.OutOfMemoryError: Direct buffer memory` A TAS restart clears up the error condition, but it does not prevent it from occurring again. **Business Impact:** The server can run out of resources eventually. The TAS performance degrades because of the accumulation of threads and resources.	After you apply the hot fix, the TAS performance does not degrade after repeated refreshes of the **`Production`** rules page.

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When you use the DBSLICE data set option for an estimation, some transactions are not included in the results.	ESTIMATION	**Summary:** Some transaction data is not included in the estimation results under these conditions: • The DBSLICE data set option is used. • The transaction tables in the Transaction Data Repository (TDR) database have daily partitions. • The estimation start date and end date span a day boundary and are less than one day apart. **Business Impact:** Estimations are missing data and might not reflect the rule behavior accurately.	After you apply the hot fix, estimations retrieve all transactions when you use the DBSLICE data set option, the transaction tables have daily partitions, and the start and end date span a day boundary and are less than one day apart.
You cannot run an estimation for a rule when it refers to a user variable associated with a build ID that is missing from the FCM_BUILD table.	RULES	**Summary:** When you select rules to include in an estimation, an error occurs when the rule refers to a user variable whose begin date is not associated with a build ID in the FCM_BUILD table in the System of Record (SOR) database. The error displayed on the web page is as follows: `Unable to retrieve rules transaction information to support estimation creation.` **Business Impact:** Rule writers cannot run estimations to verify the code in some rules.	After you apply the hot fix, the estimation first checks the FCM_BUILD table for the build ID. If the ID is not found, the estimation uses the minimum build ID for the tenant of the rule instead. The estimation completes without error.

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On Oracle systems, an error occurs when the maximum number of database cursors is reached.	ENGINE	**Summary:** On Oracle systems, when the OnDemand Decision Engine is not configured to use stored procedures, the database cursors are not reused. When the maximum number of cursors is reached, an error occurs in the OnDemand Decision Engine log: `ERROR : java.sql.SQLException: ORA-04025: maximum allowed library object lock allocated` **Business Impact:** The OnDemand Decision Engine reports database errors and fails to process transactions. Fraudulent transactions might not be identified.	After you apply the hot fix, the OnDemand Decision Engine reuses the Oracle cursors when it is not configured to use stored procedures.
You cannot enable or disable a rule with the order type set to Pre-Rule and with a priority value greater than **0**.	RULES	**Summary:** On the **Rules** tab, if you select a production pre-rule with a priority greater than **0**, you cannot disable or enable it. Instead, the web page displays the busy indicator and the page never returns. The workaround for this issue is to deactivate the rule and then redeploy the SAS OnDemand Decision Engine. **Business Impact:** You cannot use the **Rules** tab to enable or disable pre-rules with a nonzero priority. The workaround requires the rule to be deactivated and the SAS OnDemand Decision Engine redeployed. This method takes more time.	After you apply the hot fix, you can enable or disable production pre-rules that have a priority value set.

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You cannot deploy a new rule file when there are many rules that reference lookup lists.	RULES	**Summary:** On Oracle systems, you cannot deploy a new rules file on the **Console** tab when the sum of all lookup list references across all rules is greater than 1000. The error message in the web application log is as follows: `### Error querying database. Cause: java.sql.SQLSyntaxErrorException: ORA-01795: maximum number of expressions in a list is 1000` **Business Impact:** The sum of the number of lookup lists that are used per rule is limited to 1000. This limit might prevent rule writers from using lookup lists in some of their rules.	After you apply the hot fix, the rule deployment succeeds when the sum of the number of lookup lists that are used per rules is greater than 1000.