

Release Notes for SAS® Fraud Management 4.4_M0, Hot Fix 4

Description	Component	Summary	Test Scenario
Use a continuous integration process to manage database updates.	DATABASE	This is a new feature. Changes to the System of Record (SOR), Transaction Data Repository (TDR), and Multi-Entity History (MEH) databases should be maintained by a change-management process.	After you apply this hot fix, SAS Fraud Management uses a new database management system (DBMS) package to maintain and apply database updates during the post-installation steps for hot fixes.
Processing large store-and-forward (SAF) and alert-generation controller (ACG) SAF files might be slow.	USC	When you process SAF and AGC SAF files, the key for the first Read operation is always set to the first record. This key is never reset, and for very large virtual-storage access method (VSAM) files, the index search might be degraded.	After you apply this hot fix, the key from the last record read is used for the next read. The index search for VSAM file is no longer degraded.
A new version of a rule does not maintain the priority.	RULES	When a new version of a rule is created, the priority of the rule is set to 0. However, the rule should keep the priority of the rule from which it was created.	After you apply this hot fix, the priority is not set to 0 when you create a new rule.
The timestamp for surrounding rules should not change when one rule is updated.	RULES	If a single rule is updated, the last-update timestamp for surrounding rules should not change. The timestamp should change only for the modified rule.	After you apply this hot fix, the timestamp of surrounding rules does not change when one rule is updated.

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<p>The SAS® OnDemand Decision Engine does not set the transaction ID for the alert when it is reopened.</p>	<p>ODE</p>	<p>The SAS OnDemand Decision Engine should set the INIT_CMX_TRAN_ID value for the alert to the ID of the transaction that created the alert when the alert action has an action type of INITCLOSED.</p>	<p>After you apply this hot fix, the SAS OnDemand Decision Engine sets the INIT_CMX_TRAN_ID value when the alert is reopened.</p>
<p>Rule estimation uses the value of the RQO_TRAN_DATE field instead of the value of the RQO_PROC_UTC_DATETIME field when build information is retrieved.</p>	<p>RULES</p>	<p>In estimation, transactions are retrieved using the RQO_PROC_UTC_DATETIME value, but the build information is retrieved using the RQO_TRAN_DATE value. The two dates are normally very close together unless the transactions were in the SAF queue for a long time.</p> <p>If the two dates are far apart, it can result in an older BUILD_ID value being fetched for estimation.</p>	<p>After you apply this hot fix, both the transaction list and the build information are retrieved using the RQO_PROC_UTC_DATETIME date value in rule estimation.</p>
<p>Analytic reports do not support development data.</p>	<p>ANALYTIC REPORTS</p>	<p>Development data is used in analytical reports to show shifts in key variables that are related to model performance. Development data is model dependent and is customized for each client.</p> <p>The analytic reports need to include development data in the output reports.</p>	<p>After you apply this hot fix, the analytic reports include development data in the output reports.</p>
<p>You are not notified when a rule estimation requires a simulated Multi-Entity History (MEH) database.</p>	<p>RULES</p>	<p>A rule estimation that uses a simulated MEH might use more resources and take longer to complete. You are not notified when an estimation requires a simulated MEH. You should have the option to cancel the estimation.</p>	<p>After you apply this hot fix, Rules Studio displays a message when an estimation requires a simulated MEH. You can choose to continue or cancel the estimation.</p>

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There are exceptions in the log of the secondary SAS OnDemand Decision Engine.	ODE	During periods of high alerting activity, there are uncaught exceptions in the log of the secondary SAS OnDemand Decision Engine because of a timing issue.	After you apply this hot fix, high alerting activity does not result in exceptions in the secondary SAS OnDemand Decision Engine log file.
Exceptions are generated in the log of the primary SAS OnDemand Decision Engine when you redeploy during periods of high transaction volume.	ODE	<p>When the SAS OnDemand Decision Engine runs in a primary-secondary configuration, an exception is written to the log of the primary SAS OnDemand Decision Engine. This problem occurs when you issue a redeploy command during periods of high transaction volume.</p> <p>The error message is as follows:</p> <pre>2017-06-12T20:11:53,395 [Engine 4] ERROR ClusterSAS an error occurred working with a minion channel com.sas.finance.fraud.engine.client.ClientExceptio n</pre>	After you apply this hot fix, the SAS OnDemand Decision Engine does not write an error to the log of the primary SAS OnDemand Decision Engine when you redeploy during periods of high transaction volume.
In an external alert management system (XAMS) configuration, the SAS OnDemand Decision Engine should set the CQF_CREATE_ALERT_alert-type_IND field.	ODE	When the alert-generation server creates an alert in an XAMS configuration, the CQF_CREATE_ALERT_alert-type_IND field is not set. The field should be set to indicate the type of alert that is created.	After you apply this hot fix, the CQF_CREATE_ALERT_alert-type_IND field is set in XAMS configurations.

Description	Component	Summary	Test Scenario
Enhance the SAS OnDemand Decision Engine statistics.	ODE	<p>SAS OnDemand Decision Engine statistics need to the ability to do the following tasks:</p> <ul style="list-style-type: none"> • Provide counts for the number of alerts fired for each alert type • Provide MEH database SELECT, INSERT, and DELETE counts <p>Also, the ElapsedTimerAction reset=false does not work. The transaction elapsed NanoTime is updated regardless of the setting. An absolute time is returned instead of an elapsed time.</p>	After you apply this hot fix, the SAS OnDemand Decision Engine reports additional statistics and ElapsedTimerAction is fixed.
The IBM MQ Series connector should use a fair lock by default.	ODE	<p>The MQ connector's reply channel pool uses an unfair lock, by default, because that lock performs better. However, the connector should use a fair lock instead.</p> <p>This pool should always be configured large enough so that there is no waiting. But if waiting does occur, the lock should be fair.</p>	After you apply this hot fix, the MQ connector uses a fair lock by default.
Add support for Secure Sockets Layer (SSL) over sockets in the SAS OnDemand Decision Engine.	ODE	There are two ways to send transactions into the SAS OnDemand Decision Engine. The first way uses queues that already support SSL. The second way uses sockets that do not support SSL.	After you apply this hot fix, SSL over sockets is supported by the SAS OnDemand Decision Engine.

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<p>An error in the SAS OnDemand Decision Engine log indicates that a value is too long for the SMH_INFO1_CODE field.</p>	<p>ODE</p>	<p>The SAS OnDemand Decision Engine does not trim the string values before assigning them to the SMH_INFO1_CODE, SMH_REASON_CODE, and SMH_RETURN_CODE fields. When this problem happens, the following error is written to the log:</p> <pre> 2017-06-30T12:38:54,223 [Engine 0] ERROR ServerTransaction uncaught exception com.sas.finance.fraud.transaction.field.Field\$Encod eException: Invalid CHAR4. value for field smh_info1_code: 'smh_tran_type' . . .more error lines. . . Caused by: com.sas.finance.fraud.transaction.field.codec.Field CodecException: 'smh_tran_type' is too long for CHAR4. </pre>	<p>After you apply this hot fix, the SAS OnDemand Decision Engine trims the string values to the proper size before assigning values to the SMH_INFO1_CODE, SMH_REASON_CODE, and SMH_RETURN_CODE fields.</p>
<p>Improve the performance of the Transaction Data Repository (TDR) indexes that are used by the Transaction Analysis Server (TAS).</p>	<p>TAS</p>	<p>The following changes are required in order to improve indexing performance in TAS:</p> <ul style="list-style-type: none"> • Improve the SQL query to avoid full table scans on smaller tables. • Add multi-threaded queries for VXX micro batches. • Increase the default value of maximum database connections from 10 to 20. • Improve the default values and add missing fields to the tas.properties file. 	<p>After you apply this hot fix, the performance of the TAS indexes is improved.</p>
<p>Add the ability to use extended-format Virtual Storage Access Method (VMAM) in one-behind data store (OBDS) files.</p>	<p>USC</p>	<p>For customers that need exceptionally large OBDS files, the USRSOBD3 program should be modified to support both extended-format and non-extended-format VSAM files.</p>	<p>After you apply this hot fix, you can use both extended-format and non-extended-format VSAM files.</p>

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<p>The date boundaries that are used by the TAS result in uneven index creation for Elasticsearch indexes.</p>	<p>TAS</p>	<p>The TAS is responsible for creating new Elasticsearch indexes that are based on the <code>explore.index.timeseries.isoperiod.txt</code> property value in the <code>tas.properties</code> file.</p> <p>When this property is set to <code>P7D</code>, the index should always span seven full days. The TAS creates a new index that is based on the first day of the month instead of the seven days since the previous index was created. This behavior can result in the last index of the month containing fewer than seven days of data.</p>	<p>After you apply this hot fix, the TAS uses the creation date of the last index so that the last index of the month contains the full seven days of data.</p>
<p>Change the minimum Universal SAS Connector (USC) Application Programming Interface (API) time-out value to be less than one second.</p>	<p>USC</p>	<p>Currently, the minimum USC API time-out value that is allowed is one second. The minimum values should be changed to less than one second.</p>	<p>After you apply this hot fix, you can set the minimum USC API time-out value in increments of less than one second.</p>
<p>Enable the shard request cache for Elasticsearch in order to improve performance.</p>	<p>TAS</p>	<p>Enabling the use of shard request cache on Elasticsearch requests can dramatically improve search performance of subsequent individual requests. It also improves the performance for parallel requests.</p>	<p>After you apply this hot fix, the shard request cache is enabled for Elasticsearch.</p>
<p>On the Explore tab, the default time-out value of 10 seconds for the search results is too short.</p>	<p>TAS</p>	<p>When you drag a search field to the drop area on the Explore tab, the default time-out value is 10 seconds. If the search results take longer than 10 seconds to retrieve, then the search is terminated. This value should be longer.</p>	<p>After you apply this hot fix, the default time-out value for retrieving search results on the Explore tab is increased to 60 seconds.</p>

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An incorrect number of observations is used for determining authorizations at suspected entities.	CPP	For Common Point of Purchase (CPP), the number of observations that are used when determining authorizations at suspected entities is not correct.	After you apply this hot fix, the number of observations that are used is correct.
The run date is passed incorrectly to the fraud tagging macro if you do not use the ADJDT= parameter.	FRDTAG	<p>The run date parameter is passed incorrectly to the fraud tagging macro if you do not use the ADJDT= parameter on the command line when you invoke the 5006 job.</p> <p>For example, this command works:</p> <pre>bat_run_job.sh -j 5006 - s"\$SASFMCP_IMPLEMENT_HOME/fraudtag/src/sas/tag_cards_ fraud_config.xml adjdt=01Aug2018"</pre> <p>This command does not work:</p> <pre>bat_run_job.sh -j 5006 - s"\$SASFMCP_IMPLEMENT_HOME/fraudtag/src/sas/tag_cards_ fraud_config.xml"</pre> <p>The ADJDT= parameter is an undocumented option that is used for testing specific dates.</p>	After you apply this hot fix, the run date is passed correctly to the fraud tagging macro when you do not specify the ADJDT= parameter for the 5006 job.
The MEH_DELETE_DATA stored procedure that is in IBM DB210.5, Fix Pack 5 does not recognize the GET DIAGNOSTICS command.	DATABASE	The MEH_DELETE_DATA stored procedure in the DB2 10.5 (FP5) database server does not recognize the GET DIAGNOSTICS command. The procedure deletes only one row and exits even when multiple rows should be deleted.	<p>After you apply this hot fix, the MEH_DELETE_DATA stored procedure deletes the correct number of rows for DB2 10.5, FP5.</p> <p>This fix is verified for both DB2 10.5 and 11.</p>

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Abandoned messages in the USCCMEH0 program are marked as time-outs rather than errors.	USC	When a transaction fails in USCCMEH0, it is marked as abandoned. The front-end task marks the transaction as a time-out because there is no score. Instead of a time-out, the transaction should be recognized as an error.	After you apply this hot fix, abandoned messages are marked as errors instead of time-outs.
Memory corruption might occur when transcoding is required.	ODE	<p>If a client sends EBCDIC data to the SAS OnDemand Decision Engine or ACSII data to the mainframe, then transcoding is required. A working storage area is allocated for the transcoding operation. The SAS OnDemand Decision Engine calculates the memory size that it needs by finding the largest segment that needs to be transcoded and making the working storage area that same size. However, SAS OnDemand Decision Engine does not account for the model (ZOO) segments.</p> <p>If the model segment is much larger than any other segment, then the size for the working storage area will be too small. In this situation, memory can be overwritten and the SAS OnDemand Decision Engine can fail.</p>	After you apply this hot fix, the maximum segment size is determined after the Z00 segments are processed. The size of the working storage area is created large enough to complete the transcoding.
An error is written to the catalina.out log when you run an estimation on a rule that determines whether a rule in the Testing folder has fired.	RULES	<p>An infinite loop occurs when you run an estimation on a rule that determines whether another rule in the Testing folder has fired.</p> <p>When this problem occurs, the web application displays this message:</p> <p style="padding-left: 40px;">The website cannot display the page</p> <p>In addition, the following error is written to the catalina.out log:</p> <pre>11:26:04,418 ERROR [[CASedCrossDomainProxy]] Servlet.service() for servlet [CASedCrossDomainProxy] in context with path [/SASFraudMgmtMid-TierFSM44ORA] threw exception [Filter execution threw an exception] with root cause com.sas.svcs.config.client.ApplicationNotFoundException: Application 'SAS Fraud Management' does not exist.</pre>	After you apply this hot fix, the estimation completes successfully for a rule that determines whether a testing rule has fired.

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Add support for upgrading 3.3M0 signatures to SAS OnDemand Decision Engine storage conventions.	ODE	<p>In the 3.3M0 release, signatures are stored in the S370FRB8.0 format if the encoding was EBCDIC. In later releases, signatures are stored in the IEEE8.0 format.</p> <p>To migrate 3.3M0 signatures, the SAS OnDemand Decision Engine should convert the numbers to IEEE8.0 format.</p>	After you apply this hot fix, the SAS OnDemand Decision Engine converts the 3.3M0 signatures to IEEE8.0 format.
Data integrity issues might occur when queues, call results, alerts, or rules are deleted from the System of Record (SOR) database.	ODE	<p>When queues, call results, alerts, or rules are deleted, one of the following error messages might be written to the SAS OnDemand Decision Engine log:</p> <ul style="list-style-type: none"> • 2017-08-13T09:31:13,556 [Walk 13] ERROR SamsAlertAction queue_id 50101 doesn't have a result_id 5 (found on alert_id 81083) • 2017-08-29T08:27:07,177 [Walk 18] ERROR SamsAlertAction alert_id 1862207 refers to non-existent queue_id 58037 • 2017-08-29T08:27:07,310 [Walk 4] ERROR AlertService Build 52277 has no rule defined for (fired) slot 1015 	After you apply this hot fix, data-integrity issues do not occur when you delete queues, call results, alerts, or rules from the SOR.