

## SAF EDIT

SAF EDIT command is used to edit the SAF records in the SAF database. There are two scenarios to edit the SAF records:

- It is used to change the SAF status of PREAUTH, DECLINED and NOT\_PROCESSED records to ELIGIBLE status.
- It is used to update the transaction amount for Pre-auth transaction(s).

Application would not modify a SAF record which is in PROCESSED/ DEFERRED status.

POS would send SAF EDIT request with the SAF number (SAF\_NUM) for single transaction record or the range of SAF records (using SAF\_NUM\_BEGIN and SAF\_NUM\_END) to be updated with SET\_SAF\_STATUS set to ELIGIBLE. In case of a PREAUTH record, SET\_TRANS\_AMOUNT field can be included to update the transaction amount of the record. Once the connection to the host is restored, the application will post the updated SAF record to the gateway. While updating a range of SAF records, if only few records in the range are editable, then the POS returns the response as "X SAF RECORD(S) UPDATED" (X means the number of SAF record). Refer to [Editing Multiple Transactions](#) sample for more details on response.

### Note

- SAF transactions with DECLINED and NOT\_PROCESSED status can be edited to ELIGIBLE, if the number of retries do not exceed the value set in MAXSAFRETRY parameter (default: 3 times).
- Marking a SAF Record as ELIGIBLE is not a confirmation to the user that the transaction will be processed successfully. It is completely dependent on the Gateway or the End Processor to decide over the final result of the transaction. It is recommended to perform a SAF QUERY to identify the latest status of the SAF records.

**Device UI Required:** No

### Request Packet

| Field         | Rule      | Type         | Minimum | Maximum | Value(s) | Description  |
|---------------|-----------|--------------|---------|---------|----------|--|
| FUNCTION_TYPE | Required  | Static value |         |         | SAF      | Type of function   |
| COMMAND       | Required  | Static value |         |         | EDIT     | Command name   |
| SAF_NUM       | Character | Numeric      | 1       | 4       |          | SAF record number. This is used to specify single transaction record only. This is required, if SAF_NUM_BEGIN and END are not specified.<br><b>Example:</b> 1235 |

| Field            | Rule     | Type                  | Minimum | Maximum | Value(s)   | Description  |
|------------------|----------|-----------------------|---------|---------|--|--|
| SET_SAF_STATUS   | Optional | Static value          |         |         | Valid value:<br>ELIGIBLE -<br>Queued / waiting<br>to be processed. | This field is sent to set SAF transaction(s) status as ELIGIBLE. SAF transactions with DECLINED and NOT_PROCESSED status from the SAF database, can be edited to ELIGIBLE, if the number of retries do not exceed the value set in MAXSAFRETRY parameter (default: 3 times). |
| SET_TRANS_AMOUNT | Optional | Floating point number | 1(2)    | 5(2)    |  | This transaction amount is sent, in case of single SAF record. This field will be honoured only while updating the Pre-Auth Transaction. For other transactions, SCA will not update this amount.<br><b>Example:</b> 5.00  |

| Field         | Rule     | Type                | Minimum | Maximum | Value(s) | Description   |
|---------------|----------|---------------------|---------|---------|----------|---|
| SAF_NUM_BEGIN | Optional | Numeric             | 1       | 4       |          | Used together with SAF_NUM_END to specify range of SAF records. SAF_NUM range >1 record is only applicable to status change.<br><b>Example:</b> 1236  |
| SAF_NUM_END   | Optional | Numeric             | 1       | 4       |          | Used together with SAF_NUM_BEGIN to specify range of SAF records. If not specified, edits from SAF_NUM_BEGIN to end of records (3.1.67 and higher) SAF_NUM range >1 record is only applicable to status change.<br><b>Example:</b> 1237 |
| COUNTER       | Required | Numeric             | 1       | 10      |          | COUNTER is used for a given MAC label. Each COUNTER should be higher than the last one. Used to authenticate the POS. <b>Example:</b> 100   |
| MAC           | Required | Base64 Encoded Data |         |         |          | Message Authentication Code. Used to authenticate the POS.  |

| Field     | Rule     | Type      | Minimum | Maximum | Value(s) | Description   |
|-----------|----------|-----------|---------|---------|----------|---|
| MAC_LABEL | Required | Character | 1       | 50      |          | Associated label that tells the device which MAC_KEY to use to decrypt the value of MAC. Used to authenticate the POS. <b>Example:</b> REG1 |

#### Example

Following is an example of request packet

```
<TRANSACTION>
<FUNCTION_TYPE>SAF</FUNCTION_TYPE>
<COMMAND>EDIT</COMMAND>
<SAF_NUM>0001</SAF_NUM>
<SET_SAF_STATUS>ELIGIBLE</SET_SAF_STATUS>
<SET_TRANS_AMOUNT>5.00</SET_TRANS_AMOUNT>
<COUNTER>1</COUNTER>
<MAC> ... </MAC>
<MAC_LABEL>REG2</MAC_LABEL>
</TRANSACTION>
```

#### Response Packet

| Field         | Type      | Value   | Description   |
|---------------|-----------|---|---|
| RESPONSE_TEXT | Character |   | Processor response text.<br><b>Example:</b> SUCCESS   |
| RESULT        | Character |   | This indicates the Result details.<br><b>Example:</b> OK                                      |
| RESULT_CODE   | Numeric   | Expected result code: -1, 59053, 59046, 59047, 59048, 59040 | This indicates the result code. Refer to <a href="#">Result/Error Codes</a> for more details. |

| Field              | Type      | Value              | Description   |
|--------------------|-----------|--------------------|---|
| TERMINATION_STATUS | Character | SUCCESS or FAILURE | This indicates the transaction termination status. This is the overall status of the transaction irrespective of approved or declined. Like, if the output is generated then the status is SUCCESS and if no output is generated then the status will be FAILURE. |
| POS_RECON          | Character |                    | POS reconciliation field echoed back if sent in request.<br><b>Example:</b> RetailPOS1  |
| COUNTER            | Numeric   |                    | Echoes COUNTER sent in the request. <b>Example:</b> 100   |

#### Transaction Performance Metric

##### Note

These fields are returned, if SCAPERFMETRIC parameter ([Application Parameters](#)) is enabled.

| Field | Type | Value | Description |
|-------|------|-------|-------------|
|-------|------|-------|-------------|

|           |      |  |  |
|-----------|------|--|--|
| UI_TIME   | Time |  | <p>This indicates the time duration, for which the device screen is displayed (like error message, prompt screen, remove card screen) till any user action is performed in the command execution flow. This field is not applicable to capture the time for the Processing, Authorizing and transaction status screen. The format of the returned value would be S.sss, where S is seconds (this can be 0 to any positive integer) and sss is milliseconds. In case of any insignificant time or 0.000 value, will not be returned in the response. <b>Example:</b> <code>&lt;UI_TIME&gt;44.028&lt;/UI_TIME&gt;</code></p>                     |
| HOST_TIME | Time |  | <p>This indicates the time taken for the Connection to the host, sending request and receives data from the host. This field also take the cumulative time for multiple requests which may sent to the host during the transaction including two legged transactions, timeout requests, Auto Last Tran requests, DCC, Credit app proxy. The format of the returned value would be S.sss, where S is seconds (this can be 0 to any positive integer) and sss is milliseconds. In case of any insignificant time or 0.000 value, will not be returned in the response. <b>Example:</b> <code>&lt;HOST_TIME&gt;1.389&lt;/HOST_TIME&gt;</code></p> |

|          |      |   |
|----------|------|---|
| CMD_TIME | Time | <p>This field indicates the total amount of time for a command, which is executed by the application from request received to the response sent. The format of the returned value would be S.sss, where S is seconds (this can be 0 to any positive integer) and sss is milliseconds. In case of any insignificant time or 0.000 value, will not be returned in the response. <b>Example:</b> &lt;CMD_TIME&gt;70.765&lt;/CMD_TIME&gt;</p> |
|----------|------|---|

#### Example

| Example Request  | Example Response  |
|--|---|
| <pre>&lt;TRANSACTION&gt; &lt;FUNCTION_TYPE&gt;SAF&lt;/FUNCTION_TYPE&gt; &lt;COMMAND&gt;EDIT&lt;/COMMAND&gt; &lt;SAF_NUM&gt;0001&lt;/SAF_NUM&gt; &lt;SET_SAF_STATUS&gt;ELIGIBLE&lt;/SET_SAF_STATUS&gt; &lt;SET_TRANS_AMOUNT&gt;5.00&lt;/SET_TRANS_AMOUNT&gt; &lt;COUNTER&gt;1&lt;/COUNTER&gt; &lt;MAC&gt; ... &lt;/MAC&gt; &lt;MAC_LABEL&gt;REG2&lt;/MAC_LABEL&gt; &lt;/TRANSACTION&gt;</pre> | <pre>&lt;RESPONSE&gt; &lt;RESPONSE_TEXT&gt; 1 SAF RECORD(S)UPDATED&lt; RESPONSE_TEXT&gt; &lt;RESULT&gt;OK&lt;/RESULT&gt; &lt;RESULT_CODE&gt;-1&lt;/RESULT_CODE&gt; &lt;TERMINATION_STATUS&gt;SUCCESS&lt;/TERMINATION_STATUS&gt; &lt;COUNTER&gt;1&lt;/COUNTER&gt; &lt;RESPONSE&gt;</pre> |

#### If the transaction is already processed or Maximum number of EDIT exceeded:

| Example Request   | Example Response   |
|---|--|
| <pre>&lt;TRANSACTION&gt; &lt;FUNCTION_TYPE&gt;SAF&lt;/FUNCTION_TYPE&gt; &lt;COMMAND&gt;EDIT&lt;/COMMAND&gt; &lt;SAF_NUM&gt;0017&lt;/SAF_NUM&gt; &lt;SET_SAF_STATUS&gt;ELIGIBLE&lt;/SET_SAF_STATUS&gt; &lt;MAC_LABEL&gt;P_UWSQPX&lt;/MAC_LABEL&gt; &lt;COUNTER&gt;58&lt;/COUNTER&gt; &lt;MAC&gt;I1XaWqAELXO5Wbi2CZ/dXxcAX4h04u3WiT8jwme88Gg= &lt;/MAC&gt; &lt;/TRANSACTION&gt;</pre> | <pre>&lt;RESPONSE&gt; &lt;RESPONSE_TEXT&gt;SAF EDIT NOTALLOWED&lt;/RESPONSE_TEXT&gt; &gt; &lt;RESULT&gt;ERROR&lt;/RESULT&gt; &lt;RESULT_CODE&gt;59053&lt;/RESULT_CODE&gt; &lt;TERMINATION_STATUS&gt;FAILURE&lt;/TERMINATION_STATUS&gt; &lt;COUNTER&gt;58&lt;/COUNTER&gt; &lt;/RESPONSE&gt;</pre> |

When a Transaction with particular SAF\_NUM is not present in device:

| Example Request   | Example Response   |
|---|--|
| <pre> &lt;TRANSACTION&gt; &lt;FUNCTION_TYPE&gt;SAF&lt;/FUNCTION_TYPE&gt; &lt;COMMAND&gt;EDIT&lt;/COMMAND&gt; &lt;SAF_NUM&gt;0019&lt;/SAF_NUM&gt; &lt;SET_SAF_STATUS&gt;ELIGIBLE&lt;/SET_SAF_STATUS&gt; &lt;MAC_LABEL&gt;P_UWSQPX&lt;/MAC_LABEL&gt; &lt;COUNTER&gt;59&lt;/COUNTER&gt; &lt;MAC&gt; VfJk40oDKtPJdxkEpXVYm13a3DR1m7f64maNT6MLJlk=&lt;/MAC&gt; &lt;/TRANSACTION&gt; </pre> | <pre> &lt;RESPONSE&gt; &lt;RESPONSE_TEXT&gt;NO SAF RECORDS FOUND&lt;/RESPONSE_TEXT&gt; &lt;RESULT&gt;ERROR&lt;/RESULT&gt; &lt;RESULT_CODE&gt;59053&lt;/RESULT_CODE&gt; &lt;TERMINATION_STATUS&gt;FAILURE&lt;/TERMINATION_STATUS&gt; &lt;COUNTER&gt;59&lt;/COUNTER&gt; &lt;/RESPONSE&gt; </pre> |

Editing Multiple transactions using SAF Edit:

| Example Request   | Example Response  |
|---|---|
| <pre> &lt;TRANSACTION&gt; &lt;FUNCTION_TYPE&gt;SAF&lt;/FUNCTION_TYPE&gt; &lt;COMMAND&gt;EDIT&lt;/COMMAND&gt; &lt;SET_SAF_STATUS&gt;ELIGIBLE&lt;/SET_SAF_STATUS&gt; &lt;SAF_NUM_BEGIN&gt;25&lt;/SAF_NUM_BEGIN&gt; &lt;SAF_NUM_END&gt;29&lt;/SAF_NUM_END&gt; &lt;MAC_LABEL&gt;P_OHNIMC&lt;/MAC_LABEL&gt; &lt;COUNTER&gt;46&lt;/COUNTER&gt; &lt;MAC&gt;hymeGwd4lkxfRzrsGv03161AKsn/qhvzEO//Rsuqhus= &lt;/MAC&gt; &lt;/TRANSACTION&gt; </pre> | <pre> &lt;RESPONSE&gt; &lt;RESPONSE_TEXT&gt;2 SAFRECORD(S)UPDATED&lt;/RESPONSE_TEXT&gt; &lt;RESULT&gt;OK&lt;/RESULT&gt; &lt;RESULT_CODE&gt;-1&lt;/RESULT_CODE&gt; &lt;TERMINATION_STATUS&gt;SUCCESS&lt;/TERMINATION_STATUS&gt; &lt;COUNTER&gt;46&lt;/COUNTER&gt; &lt;/RESPONSE&gt; </pre> |