SAF QUERY

This command queries SAF transactions in the database.

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			QUERY	Command name

Field	Rule	Type	Minimum	Maximum	Value(s)	Description
SAF_STATUS	Optional	List			Valid values: • ELIGIBLE - Queued/waiting to be processed. • IN_PROCESS - In process. • NOT_PROCESSED – When a Deferred SAF transaction is retried for configured number of times and if it fails for all retries, then the status of the record will be updated to NOT_PROCESSED. • PREAUTH - AUTH transaction. • PROCESSED - Approved transaction, including duplicate. • DECLINED - Declined transaction. • DEFERRED - Transactions getting unknown result response.	If specified, SAF transactions returned will be filtered by this status. **NOTE:** PREAUTH is specific to UGP.
SAF_NUM_BEGIN	Optional	Numeric	1	4	Ex: 1235	If the beginning number is not specified, then the application enquires all SAF transactions. **Example:** 1235
SAF_NUM_END	Optional	Numeric	1	4		If the ending number is not specified, then it will be defaults to SAF_NUM_BEGIN. **Example:** 1236

Field	Rule	Type	Minimum	Maximum	Value(s)	Description
POS_RECON	Optional	Character	1	30		POS reconciliation. POS Reconciliation field to be echoed back in response to POS. **Example:** RetailPOS1
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. **Example:** 100
MAC	Required	Base64 Encoded Data				Message Authentication Code. Used to authenticate the POS.
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. **Example:** REG1

Example

Following is an example of request packet

```
<TRANSACTION>
    <FUNCTION_TYPE>SAF</FUNCTION_TYPE>
    <COMMAND>QUERY</COMMAND>
    <COUNTER>1</COUNTER>
    <MAC> … </MAC>
    <MAC_LABEL>REG2</MAC_LABEL>
    <SAF_STATUS>ELIGIBLE</SAF_STATUS>
</TRANSACTION>
```

Response Packet

Field	Type	Value(s)	Description
RESPONSE_TEXT	Character	Ex: n SAF RECORDS FOUND	Processor response text. n = Number of records

Field	Type	Value(s)	Description
RESULT	Character	Ex: OK	This indicates the Result details.
RESULT_CODE	Numeric	Expected result code: -1, 59046, 59047, 59048, 59040	This indicates the result code.
TERMINATION_STATUS	Character	Valid values: 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.
MERCHID	Numeric	Ex: 900000000123	Merchant ID. This is a conditional field.
TERMID	Numeric	Ex: 001	Terminal ID. This is a conditional field.
POS_RECON	Character		POS reconciliation field echoed back if sent in request. **Example:** RetailPOS1
COUNTER	Numeric	Ex: 100	Echoes COUNTER sent in the request.
RECORD_COUNT	Numeric	Ex: 55	Number of SAF transactions.
TOTAL_AMOUNT	Floating point number	Ex: 5592.00	Total amount of all SAF transactions.
RECORDS			See RECORD section for child elements

RECORD Child Elements

Field	Type	Value(s)	Description
ACCT_NUM	Number	Ex: 400555******0019	Returns the masked account number. This is a conditional field.
TRANS_AMOUNT	Floating point number	Ex: 5.00	Returns the transaction amount. This is a conditional field.
INVOICE	Character	Ex: 123456	Merchant invoice number. This is a conditional field.
PAYMENT_TYPE	Character	Ex: CREDIT	Returns the type of payment used. This is a conditional field.
PAYMENT_MEDIA	Character	Ex: VISA	Mode of payment. This is a conditional field.
SAF_NUM	Numeric	Ex: 0045	SAF number. This is a conditional field.
SAF_STATUS	Character	Valid values: ELIGIBLE, PROCESSED, IN_PROCESS, NOT_PROCESSED, DECLINED	SAF transaction status. This is a conditional field.

Field	Type	Value(s)	Description
CTROUTD	Numeric	Ex: 45	Returns Client-specific Transaction routing ID. This is a conditional field.
TROUTD	Numeric	Ex: 435674	This is a conditional field.
CARD_TOKEN	Character	Ex: 7987654321098765	Authorization code. This is a conditional field.
TOKEN_SOURCE	Character	Ex: PWC	Card Token. This is a conditional field.
AUTH_CODE	Character	Ex: TA01561	Source of token. This is a conditional field.
BANK_USERDATA	Character	Ex: /CustData`JANE`K`DOE`````00`	Bank User Data, normally returned with CARD_TOKEN. Maximum 50 alphanumeric characters. This is a conditional field.
CVV2_CODE	Character	Ex: M	Result of CVV2 check. This is a conditional field. This is applicable to direct-to-processor (DHI) implementations only.
BUSINESSDATE	Numeric	Ex: 20161102	This indicates the business date. The format would be YYYYMMDD. This is a conditional field, if sent in START SESSION.
MERCHID			Merchant ID. This is a conditional field. This is applicable to (DHI) implementations only.
TERMID			Term ID. This is a conditional field. This is applicable to (DHI) implementations only.
LANE			This field is used to identify the retail lane. This is a conditional field. This is not applicable to Point Classic.
COMMAND	List	Valid value: SALE	Returns the command name.
STORE_NUM			Store number. This is a conditional field. This is not applicable to Point Classic.
APPROVED_AMOUNT	Floating point number		The amount which is approved. This is a conditional field.

EMV (Engage devices)

Field	Type	Value(s)	Description
EMV_MODE			EMV mode. This is a conditional field.
EMV_CVM			EMV CVM. This is a conditional field.
EMV_CHIP_INDICATOR		Ex: CONTACT	EMV chip indicator to identify, contact or contactless. This is a conditional field.
EMV_MODE			EMV mode. This is a conditional field.

Dynamic Currency Conversion Response Fields (Conditional)

Note

If ALLOWDDCTOSAF parameter is set to 1.

Field	Type	Value(s)	Description
DCC_IND	Numeric	Values: • 1 - Transaction is DCC eligible and cardholder has accepted the option. • 2 - Transaction is not eligible for DCC. • 3 - Transaction is DCC eligible yet cardholder has not accepted the option.	DCC Indicator.
DCC_EXCHANGE_RATE	Floating point number	Ex: 1.7461	Exchange rate for converting local currency to foreign currency.
DCC_ALPHA_CURR_CODE	Character	Ex: SGD	Currency code of the foreign transaction.
DCC_DATETIME	Date		Indicates the date and time, when the DCC conversion took place.
DCC_TIMEZONE	Character		Time zone for the DCC_DATETIME, that will be provided in the device by the application or Merchants.
DCC_TRAN_AMOUNT	Floating point number	Ex: 24.45	Converted amount

Transaction Performance Metric

Note

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

Field	Type Value	Description
UI_TIME	Time	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. **Example:** `<UI_TIME>44.028</UI_TIME>`
HOST_TIME	Time	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. **Example:** `<HOST_TIME>1.389</HOST_TIME>`
CMD_TIME	Time	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. **Example:** `<CMD_TIME>70.765</CMD_TIME>`

Example 1

Following is an example when there are SAF records to be removed

```
<RESPONSE>
    <RESPONSE_TEXT>2 SAF RECORDS FOUND<RESPONSE_TEXT>
    <RESULT>OK</RESULT>
    <RESULT_CODE>-1</RESULT_CODE>
    <TERMINATION_STATUS>SUCCESS</TERMINATION_STATUS>
    <COUNTER>1</COUNTER>
    <RECORD_COUNT>2</RECORD_COUNT>
    <TOTAL_AMOUNT>10.40</TOTAL_AMOUNT>
    <RECORDS>
        <RECORD>
            <ACCT_NUM>523456******1594</ACCT_NUM>
            <TRANS_AMOUNT>5.20</TRANS_AMOUNT>
            <INVOICE>123456</INVOICE>
            <PAYMENT_TYPE>CREDIT</PAYMENT_TYPE>
            <PAYMENT_MEDIA>MASTERCARD</PAYMENT_MEDIA>
            <SAF_NUM>1235</SAF_NUM>
            <SAF_STATUS>ELIGIBLE</SAF_STATUS>
```

```
            <CTROUTD>759</CTROUTD>
            <AUTH_CODE>17760K</AUTH_CODE>
            <CARD_TOKEN>8834134431340010|0AB5DD</CARD_TOKEN>
            <CVV2_CODE>M</CVV2_CODE>
            <BANK_USERDATA>/CustData`JANE`K`DOE`````00`</BANK_USERDATA>
        </RECORD>
        <RECORD>
            <ACCT_NUM>4005555******0019</ACCT_NUM>
            <TRANS_AMOUNT>5.20</TRANS_AMOUNT>
            <INVOICE>123456</INVOICE>
            <PAYMENT_TYPE>CREDIT</PAYMENT_TYPE>
            <PAYMENT_MEDIA>VISA</PAYMENT_MEDIA>
            <SAF_NUM>1236</SAF_NUM>
            <SAF_STATUS>ELIGIBLE</SAF_STATUS>
            <CTROUTD>760</CTROUTD>
            <AUTH_CODE>17760K</AUTH_CODE>
            <CARD_TOKEN>8834134431340010|0AB5DD</CARD_TOKEN>
            <CVV2_CODE>M</CVV2_CODE>
            <BANK_USERDATA>/CustData`JANE`K`DOE`````00`</BANK_USERDATA>
        </RECORD>
    </RECORDS>
</RESPONSE>
```

Example 2

Following is an example when there are SAF records are not present

```
<RESPONSE>
    <RESPONSE_TEXT>0 SAF RECORDS FOUND<RESPONSE_TEXT>
    <RESULT>OK</RESULT>
    <RESULT_CODE>-1</RESULT_CODE>
    <TERMINATION_STATUS>SUCCESS</TERMINATION_STATUS>
    <COUNTER>1</COUNTER>
    <RECORD_COUNT>0</RECORD_COUNT>
    <TOTAL_AMOUNT>0.00</TOTAL_AMOUNT>
<RESPONSE>
```