# Overview

SCA provides merchants with a comprehensive managed service designed to remove complexity from the payment acceptance process, while giving greater flexibility to consumers over what methods they use to pay for goods and services. Merchants leverage an end-to-end solution that includes hardware, software, maintenance, updates, and compliance management, for a fixed monthly fee, ensuring simplicity and peace of mind for payment acceptance today and tomorrow

Following are the benefits of using SCA:

- **Greater choice and flexibility** - Merchants have greater control over what methods of payment and/or loyalty programs they accept and have greater ability to deploy new methods.
- **Future-proofing** – Merchants benefit from a system that grows with the market while protecting their investment. As new methods of payment emerge, devices are updated (HW/SW) to ensure that the merchant is prepared to accept them when they are ready.
- **Enhanced customer experience and retention** – Payments are more than transactions; they're interactions. Verifone continues to innovate the payments experience, driving revenue and loyalty for merchants while fostering greater ease and flexibility for consumers.
- **Cost certainty** – Verifone eliminates unknown variable costs through a single flat rate per device.
- **Standard interface** – Integrators use a common interface.

## Variants of SCA

Following are the supported variants of SCA

- SCA Classic
- SCA Enterprise Direct to Processor
- SCA Lite

Please note: The document uses a common terminology as SCA for all variants unless there is a distinguishing feature for a variant.

## Supported Devices

| Engage Devices | UX Series | Neo Devices | Neo2 Devices |
|---|---|---|---|
| e280 | UX 301 | M425 | M425-A |
| e285 | UX 400 | M450 | M450-A |

| Engage Devices | UX Series | Neo Devices | Neo2 Devices |
|---|---|---|---|
| P200 | UX 410 | P630 | P630 plus A |
| P400 | UX 115 | UX700 | |
| M400 | | | |
| M440 | | | |
| M424 | | | |
| V400c | | | |
| V400m | | | |
| V200c | | | |

## Supported Cards

| Branded Cards | Non Branded Cards |
|---|---|
| VISA | EBT |
| Mastercard | Gift Cards |
| Amex | PLCC |
| Discover | FSA |
| JCB | |
| Diners | |
| UPI | |
| Interac | |
| DNA | |
| WEX | |
| Voyager | |

## Supported Processor Authorization Hosts

SCA Classic supports the following processor authorization hosts for credit card and debit card transactions.

- Chase Canada – includes EMV Contact and Contactless
- Chase US – includes EMV Contact and Contactless
- First Data Rapid Connect – includes EMV contact support
- Elavon – (Retail only/no level II) includes EMV contact support
- Worldpay (Vantiv) (Retail only/no level II) – includes EMV contact support
- TSYS – includes EMV contact support
- Global Canada
- GSC
- UGP

SCA Classic supports the following processor authorization host for EBT card transactions.

- Chase Canada
- Chase US
- First Data Rapid Connect

- Worldpay (Vantiv)
- TSYS

SCA Classic supports the following processor authorization hosts for Gift card transactions.

- Chase Canada
- Chase US
- First Data ValueLink
- Givex
- SVS
- Worldpay (Vantiv)

SCA Enterprise Direct to Processor supports the following processor authorization hosts for credit card and debit card transactions. Refer to [Direct to Processor Implementations](#) for more payment types and information.

- Worldpay (Vantiv) - includes EMV contact/ contactless/Quick Chip
- First Data Rapid Connect – Available only on Engage - includes EMV contact/contactless/Quick Chip
- TSYS – Available only on Engage - includes EMV contact/ contactless/Quick Chip
- Global Canada
- Chase Canada – includes EMV Contact and Contactless
- Chase US – includes EMV Contact and Contactless

## Supported Industries

SCA supports the following industries.

- Retail and QSR
- Restaurant
- MOTO (Engage FD RC Direct and Engage TSYS)

## Supported Transactions

SCA supports the following transactions.

**Administrative Transactions**

| Transactions | Description |
|---|---|
| **Register POS** | This command registers a POS to the device's list of trusted clients and allows data to be passed between payment devices and POS systems. |
| **Register Encryption POS** | This command registers a POS to the device's list of trusted clients and allows data to be passed between payment devices and POS systems. It is to be used when full packet encryption is to be implemented. |
| **Unregister POS** | This command removes the POS registration from device's trusted clients list and removes the data used to verify authenticity of the sender. |
| **Unregister All POS** | This command unregisters all of the currently registered POS systems. |
| **Test MAC** | This command validates that a MAC is correct and that a POS has been successfully added. |

| Transactions | Description |
| --- | --- |
| **Start Session** | This command is used to start a new payment session or line item session. |
| **Finish Session** | This command is used to end a payment session or line item session. |
| **Set Date/Time** | This command sets the device to a specific date and time. |
| **Get Counter** | This command retrieves the last counter used for a given MAC label. |
| **Lane Closed** | This command closes the active session and optionally displays a corresponding message on the Idle screen. |
| **Apply Updates** | This command allows the POS to signal the device to apply VHQ updates. |

## Secondary Port Transactions

| Transactions | Description |
| --- | --- |
| **Cancel** | This command will cancel the transaction currently in progress. It does not cancel the session. |
| **Reboot** | This command will reboot the device and resync its connection to the POS. |
| **Status** | This command will query the status of a device. |
| **Update Query** | This command will query if any VHQ updates are available. Supported only on Engage devices as of this publication. |
| **Update Status** | This command will query the status of a VHQ update. Supported only on Engage devices as of this publication. |

## Credit Card Transactions

| Transactions | Description |
| --- | --- |
| **Authorization** | |
| **Online (Pre-Authorization)** | This transaction reduces the cardholder's limit to buy and can be considered the first half of a Sale. A Capture is required to place the transaction into the open batch. |
| **Offline (Voice Authorization)** | This transaction is used to place a voice-authorized transaction into the database ONLY it does not place the transaction into the open batch. Perform a Voice Authorization (Auth with an AUTH_CODE) rather than a Post Authorization (Capture with an AUTH_CODE) when the transaction amount may differ slightly from what was originally authorized or if you want to settle a transaction on a different day than when you voice-authorized it. A Capture is required to place the transaction into the open batch. |
| **Capture** | |
| **Online (Sale)** | This transaction reduces the cardholder's limit to buy and places the transaction into the open batch. |
| **Offline (Post Authorization)** | This transaction places an approved voice-authorized transaction into the open batch. |
| **Follow-on (Completion)** | This transaction places an approved Authorization transaction into the open batch. |
| **Void** | This transaction removes a transaction from the open batch. |
| **Add Tip (Restaurant only)** | This transaction adds gratuity amount to a transaction in the open batch. |

| Transactions | Description |
| --- | --- |
| **Reset Tip (Restaurant only)** | This transaction removes gratuity amount from a transaction in the the open batch. |
| **Last Transaction** | This report is used to determine the status of the last transaction processed. |

## Debit Card Transactions

| Transactions | Description |
| --- | --- |
| **Sale** | This transaction reduces the cardholder's limit to buy and places the transaction into the open batch. |
| **Refund** | This transaction returns funds to a cardholder's account. Swipe and PIN are required. |
| **Void** | This transaction removes a transaction from the open batch. Void is not widely supported for debit transactions. |
| **Last Transaction** | This report is used to determine the status of the last transaction processed. |

Note

Debit card Void is not supported by Chase US.

## EBT Card Transactions

| Transactions | Description |
| --- | --- |
| **Sale** | This transaction reduces the cardholder's limit to buy and places the transaction into the open batch. |
| **Return** | This transaction returns funds to a cardholder's account. Swipe and PIN are required. |
| **Balance** | This transaction is used when merchants need to verify the amount of funds available in a customer's EBT account. |
| **Void** | This transaction removes a transaction from the open batch. Void is not widely supported for debit transactions. |
| **Last Transaction** | This report is used to determine the status of the last transaction processed. |

## Gift Card Transactions

| Transactions | Description |
| --- | --- |
| **Activate** | This transaction activates and loads value on a new gift card. |
| **Block Activate** | This transaction blocks the activation of a gift card. |
| **Reactivate** | This transaction reactivates the gift card. |
| **De-activate** | This transaction de-activates a gift card. |

| Transactions | Description |
| --- | --- |
| **Increment (Add Value)** | This transaction adds value to a gift card. |
| **Redemption (Sale)** | This transaction reduces the cardholder's limit to buy and places the transaction into the open batch. |
| **Void** | This transaction removes a transaction from the open batch. |
| **Balance Inquiry** | This transaction returns gift card balance information. |
| **Refund** | This transaction returns value to a cardholder's account. |
| **Balance Inquiry** | This transaction returns gift card balance information. |
| **Last Transaction** | This report is used to determine the status of the last transaction processed. |

Note

- Gift card transactions are processor dependent. Not all transactions are supported by all gift card processors.
- Gift card Refund is not supported by Chase US - use Gift card Add Value instead.

Note

Gift PIN code feature is applicable for some of the Gift cards. This feature is controlled by enabling or disabling GIFTPINREQD parameter. GIFTPINREQ parameter is also enhanced to restrict the functionality based on the card entry method. Other parameters like GIFTPINBYPASS, GIFTPINMINLENGTH and GIFTPINTOPOS are used in this feature. Refer to [Application Parameters](#) and later for more details on Gift PIN parameters.

The following table details the supported and unsupported transactions for Gift PIN entry.

| Supported Gift Transactions | Unsupported Gift Transactions |
| --- | --- |
| Add Value | Activate |
| Balance | Reactivate |
| Redemption | Block Activate |
| Refund | Void |
| Close | Completion |
| Deactivate | Close Tab |
| Preauth | Token Query |
| Open Tab | |
| Voice Auth | |
| Post Auth | |

**Check Transactions**

| Transactions | Description |
| --- | --- |
| **Verify** | This transaction provides paper check verification. |

| Transactions | Description |
| --- | --- |
| Authorization (Pre-Auth) | This transaction reduces the cardholder's limit to buy and can be considered the first half of a Sale. A Capture is required to place the transaction into the open batch. |
| Sale (Capture) | This transaction processes an ACH sale. |
| Follow-on (Completion) | This transaction places an approved Authorization transaction into the open batch. |
| Void | This transaction removes an ACH approved sale transaction from the open batch. Approved checks processed as an authorization (Check Verify) may not be voided. |
| Reversal | This transaction will reverse all or part of an ACH approved sale transaction. Reversals will be processed using the existing CREDIT transaction. |

**Private Label Card Transactions**

**(ADS)**

| Transactions | Description |
| --- | --- |
| Authorization (Pre-Auth) | This transaction reduces the cardholder's limit to buy and can be considered the first half of a Sale. A Capture is required to place the transaction into the open batch. |
| Follow-on (Completion) | This transaction places an approved Authorization transaction into the open batch. |
| Refund | This transaction returns funds to a cardholder's account. It is typically used after a batch has been settled or closed. |
| Void | This transaction removes a transaction from the open batch. |

Note

For Completion and Void transaction, DISABLEBATCHSIMODE parameter must be set to 0 (disable).

**Fleet Card Transactions**

| Transactions | Description |
| --- | --- |
| Authorization (Pre-Auth) | This transaction reduces the cardholder's limit to buy and can be considered the first half of a Sale. A Capture is required to place the transaction into the open batch. |
| Sale (Capture) | This transaction reduces the cardholder's limit to buy and places the transaction into the open batch. |
| Post Authorization | This transaction places an approved transaction with AuthCode into the open batch. |
| Follow-on (Completion) | This transaction places an approved Authorization transaction into the open batch. |

| Transactions | Description |
|---|---|
| **Refund (Credit)** | This transaction returns funds to a cardholder's account. It is typically used after a batch has been settled or closed. |
| **Void** | This transaction removes a transaction from the open batch. |
| **Reversal** | This transaction will reverse all or part of an approved sale transaction. Reversals will be processed using the existing type of transaction. |

**Report Transactions**

| Transactions | Description |
|---|---|
| **Daily Summary** | This report returns a summary report for each command type. |
| **Pre-settlement** | This report returns information on the transactions that have been approved since the current batch was opened. |
| **Settlement Error** | This report returns information on all the transactions that have not settled (terminal-based authorization hosts). |
| **Settlement Summary** | This report returns settlement summary information. |
| **Last Transaction** | This report is used to determine the status of the last transaction processed. |
| **Last EMV Transaction** | This report is used to determine the status of the last EMV transaction processed. *Point Classic implementations only.* |
| **Duplicate Check** | This report identifies similar transaction requests within a certain date and time range. It may be used to identify single transactions that may have been accidentally submitted multiple times. |

Additional reports are available for Engage Direct to Processor implementations, refer to [Direct to Processor Implementations](#) for more information.

**Alternate Payment Methods (APM) Transactions**

| Transactions | Description |
|---|---|
| **Sale** | This transaction reduces the account holder's limit to buy and places the transaction into the open batch. |
| **Refund** | This transaction returns funds to the account holder's account. Swipe and PIN are required. |

**Other Transactions**

| Transactions | Description |
|---|---|
| **Add Line Item** | This command adds a merchandise/offer line item to the payment transaction and displays on the device *where possible. Engage devices only*. |
| **Override Line Item** | This command overrides the price on an existing merchandise line item. *Engage devices only*. |
| **Remove Line Item** | This command removes merchandise/offer line item(s). *Engage devices only.* |
| **Remove All Line Item** | This command removes all line items from the session memory and clears them from the screen. *Engage devices only.* |

| Transactions | Description |
|---|---|
| **Show Line Item** | This command displays the line item screen on the terminal. *Engage devices only.* |
| **Remove Store and Forward (SAF) Transaction** | This command removes SAF transactions from the database. |
| **Query Store and Forward (SAF) Transaction** | This command queries SAF transactions in the database. |
| **Edit Store and Forward (SAF) Transaction** | This command edits the status/amount of an AUTH transaction in the SAF queue. |
| **Schedule Settlement Transaction** | This command schedules settlement. |
| **Signature Capture and Signature Capture Expanded** | These commands direct the device to capture signature image information from a customer. (Signature Capture Expanded shows more disclaimer text on screen). Touch capable Engage devices only. Signature Capture Expanded is only partially supported - Limited space for text display |
| **Email Capture** | This command directs the device to collect customer email address. *Engage devices only.* |
| **Loyalty Capture** | This command directs the device to collect customer loyalty information (card swipe or telephone number or loyalty number). |
| **Token Query** | This command retrieves the token for a given card. *Token Query is not supported by Engage TSYS.* |
| **Retrieve Version** | This command retrieves version information for all applications running on the payment device that are components of Point SCA. |
| **Device Name Query** | This command retrieves the device name stored on the payment device. |
| **Set Device Name** | This command sets the device name stored on the payment device. |
| **Customer Buttons** | This command directs the device to display up to five (5) lines of display text and up to six (6) on screen button selections with corresponding labels. *Engage (ALL) and Vantiv Direct SCA 4.0 Implementations only.* |
| **Set Parameters** | This command sets MID, TID, Lane, and URL parameters stored on the payment device. *Direct to processor implementations only. Not supported by TSYS Direct Engage as of this publication.* |
| **Parameters Query** | This command allows the POS to retrieve parameter values from the payment device. |
| **Display Message** | This command displays a text message box on the screen for a given time frame. |
| **Get Card Data** | This command retrieves card data using the payment device and sends it to the POS, while maintaining the security of PCI card data. *UGP and Engage FD RC as of this publication.* |
| **Tip Entry** | This command allows free form entry of tip on the device when the POS desires to gather tip external to the normal payment transaction process flow. *Vantiv Direct SCA 4.0 Implementations Only.* |
| **Open Tab (Restaurant only)** | This transaction opens a customer tab. |

| Transactions | Description |
| --- | --- |
| **Close Tab (Restaurant only)** | This transaction closes a customer tab. |
| **Delete Tab (Restaurant only)** | This transaction voids a customer tab. |

## SCA Lite

SCA Lite is the application, which is supported on UX devices. There are limited features available on UX devices, as there is no keypad input and the build would be on VOS. UX terminal supports the following commands:

- Sale without tip/cashback
- Refund
- Auth
- Completion without tip/cashback
- Gift transactions
- Start session
- Finish Session
- Lane Closed
- Line Items command(Add, remove, override)
- Version
- GET_DEVICENAME
- SET_DEVICENAME
- SETTIME
- Get Param
- Set Param
- Secondary port(Status/Cancel/Reboot)
- Last trans
- Query/Remove/Admin SAF
- Display Message
- Token Query
- Get Card Data
- Offline Forward
- Heartbeat
- Display IP

## Definition of Terms

The following terms and abbreviations are used throughout this document.

| Terms | Definitions |
| --- | --- |
| ACH | Transaction where payment for goods or services is made using the **Automated Clearing House** (ACH) network. |
| API | Application program interface |
| APM | Alternative Payment Method |
| CP | Commerce Platform |

| Terms | Definitions |
|---|---|
| CTROUTD | The CTROUTD is a Point -assigned unique identifier that will be associated with a Client ID's transaction and any subsequent transactions related to it. It is a client-specific transaction identifier. |
| DCC | Dynamic Currency Conversion. This is a technique that allows a non-domestic cardholder to be offered a choice to pay in their home currency instead or the base currency used by the merchant. |
| Device | Device is a term used to refer to the payment acceptance device in this document. |
| ECA | Electronic Check Acceptance in TeleCheck service. |
| Engage | Engage platform devices supporting SCA semi-integrated implementations are listed in Devices Supported section below. |
| Fallback | Fallback to MSR from an unsuccessful chip read on an EMV card. |
| GSC | Global Services Connector |
| HVT | High Value Token/Omni-Token. |
| IFTA | International Fuel Tax Agreement |
| LVT | Low Value Token. It is a limited use token. This transactional token has a 24-hour timeframe for expiration. |
| MAC | Message Authentication Code. |
| mPOS | Mobile Point of Sale. |
| PaaS | Payments as a Service. |
| PLCC | Private Label Credit Card |
| POS | POS is a term used to refer to a POS (Point of Sale) Terminal or ECR in this document. |
| PWC | PAYware Connect. Also, Verifone Payment Gateway. |
| RNDIS | Remote Network Driver Interface Specification |
| SAF | Store and Forward. When this feature is enabled and there is loss of connectivity to the server, the payment acceptance device can locally approve transactions below a set floor limit until a total limit is reached. The stored transactions are written to a queue within the terminal. Refer to Store and Forward section for more details on Store and Forward. |
| SCA | Secure Commerce Application – the POS application running on the payment acceptance device. Also, Secure Commerce Architecture. |
| SCA 4.0 | SCA 4.0 platform is applicable for all Engage (VOS2) devices, which are: e280, e285, P200, P400, M400, M440, M424, V400c, V400m, V200c |
| SCA 5.0 | SCA 5.0 platform is applicable for all Neo and Neo2 (VOS3) devices, which are: M425, M450, P630 and UX700 - Neo devices and M425-A, M450-A and P630 plus A - Neo2 devices. |
| SCI | Secure Commerce Interface. XML messaging an integrator sends to SCA. This is the messaging between the POS and SCA (running on the device). |
| Semi-integrated | Removes payment logic and card data from the POS system, increasing merchant security. This document focuses on semi-integrated rather than standalone. |
| SSI | Secure Services Interface. This is the messaging between SCA (running on the device) and the host/ gateway/ switch. |
| SSI Listener | Gateway, host, or payment switch that will accept SSI message specification requests and generate SSI responses. (aka) SSI Provider or receiving gateway. |

| Terms | Definitions |
|-------|-------------|
| TA_Flag | This tag can be sent in the request packet to indicate the type of processor encrypted transaction is applicable. If this tag is sent with value 1 (only value), then the decryption will happen in the end processors. If the tag is not sent in the request packet, then the decryption will happen in PWC. TA_FLAG will be sent in the host request packet, only if TAVE parameter is set to 1 and INCLUDETAFLAG parameters is not set to 0. |
| TAVE | TransArmor Verifone Edition encryption. Also pertains to FD Rapid Connect Pass through implementations - FD encryption, FD hosted DA. |
| TOR | Time Out Reversals |
| UGP | Unified Global Protocol - gateway that will accept the UGP message specification. In this document, UGP is also referred as "Point Classic Implementations". |
| UUID | Universally Unique IDentifier |
| Verifone Payment Gateway | Also known as UGP/PAYware Connect |
| VSP | VeriShield Protect encryption |

## Connectivity

Payment acceptance devices will have Estate Management functionality. Outbound firewall access is required. Verifone will provide a list of Internet visible host names to integrators and merchants so that outbound traffic is allowed out of the merchant environments. Verifone will also provide integration and testing host names to integrators.

## Implementations

SCA supports the following implementations.

- SCA Classic through the Verifone Payment Gateway
- SCA Direct to Processor. Also known as Direct Host Integration (DHI).
    - Worldpay (Vantiv Direct)
    - FD Rapid Connect
    - TSYS
    - GSC
- Not all functionality in this Integration Guide is available for direct to processor implementations. Not all verbiage in this Integration Guide applies to direct to processor implementations. Refer to Direct to Processor Implementations for general guidelines. Contact your Verifone representative for more information.
- Point Enterprise Pass through - through the Point gateway, where encryption keys are provided and decryption is conducted via third-party. This follows the integration instructions for Point Classic. (Available for Fiserv only.)