

Opsol Solution Brief



Opsols OmniCrypto solution provides a full suite of security capabilities that conforms to industry standards. Part of OmniCrypto addresses the requirements of PIN and card management, a major requirement of retail banks today. This solution brief addresses the key functionality provided by the PIN and Card management facilities of Opsol OmniCrypto.

OmniCrypto Card & PIN Management System

OmniCrypto's Card and PIN Management System provides the following functionality:

Request a new personalized card for a customer

This allows bank personnel who open the customer account to put in a request for a new card. Card personalization includes choice of pre-defined templates, expiration date format, Name, Logo, Background Color and Customer Photo. Available options vary depending on the features supported by card embossing facility. The personalized card is automatically scheduled to be sent for production and mailed as per Bank's configuration. PIN-mailer is automatically scheduled to be sent separately direct to customer's address.

The host database maintaining customer information is updated with the appropriate status, PIN-mailer number, card type and card number. Status is updated again after card and PIN-mailers are actually mailed. Card is put into 'sent-inactive' state until customer activates it within a configured period of time. If card is activated successfully, its status is changed to 'active'. If card is not activated before the configured period of time, its status is updated to 'sent-expired'. If card activation fails 3 times (configurable), card is put into 'sent-failed' status, and in this case, customer needs to visit the branch or call bank's CSR to activate the card.

Request a new PIN-mailer for a customer's card

This step is automatically done when a new card request is put in for a customer. A new PIN-mailer is sent directly to the customer and PIN verification number/offset is updated into the system for the customer.

Create a request for a batch of 'Instant' non-personalized cards

Bank can setup automatic production of batch of cards and mailing the batch to its branches at configured interval. However, in case of supply of cards to a particular branch is depleted, branch office can request for a batch of 'instant' non-personalized cards to be printed and sent out to them immediately.

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OmniCrypto provides PIN management solution fully compliant with all key management requirements as established by ANSI X9.8 (3DES) and ANSI X9.24 (Unique Keys). Processing PIN typically involves the following tasks

- *Generate PIN mailer*
- *Encrypting PIN or PIN block*
- *Translating PIN block*
- *Verifying incoming PIN block and authorizing or denying transaction requests.*

OmniCrypto supports 3DES PIN encryption using double or triple length DES keys and following PIN block types:

- *ANSI (format 0)*
- *IBM 3624*
- *PIN/pad character (Diebold)*
- *Docutel*
- *IBM encrypting PIN pad*
- *Burroughs*
- *IBM 4731*
- *Visa unique key per transaction*

Create a request for a batch of PIN-mailers

Bank can setup automatic production of PIN-mailers and mailing the batch to its branches at configured interval. However, in case of supply of PIN-mailers to a particular branch is depleted, branch office can request for an extra batch of PIN-mailers to be printed and sent out to them immediately.

Link a card to one or more customer accounts/services

This function links one or more customer accounts/services to a card.

Remove a link to one or more customer accounts for a card

This function removes linkage between one or more customer accounts/services to a card.

Specify the template to use for card production

Non-personalized cards can be setup for production as per the specified templates. Personalized cards are personalized as per customer's choice of template and formatting, if specified or produced using a default configured setting if not specified.

Activate a card using card number, CVV, PIN and a secret customer credential

This function allows a customer to activate a card through any of the supported channels (like internet, VRU or ATM). Information necessary to activate the card is card number, card verification number printed on the back of the card, PIN as printed inside the PIN-mailer sent to customer and the secret credential setup by the bank (like customer's phone number, customer's date of birth etc).

Deactivate a card

This function is internally invoked by:

1. Report stolen card activity
2. Delete customer

It may also be invoked by bank personnel if needed.

Report stolen/lost card/PIN

This allows customer/CSR to report a stolen card/PIN and deactivate the card. A new card/PIN-mailer may also be requested at this time. Card is marked as 'lost' in the database.

Reset PIN without knowing old PIN

An OmniCrypto system user with appropriate permissions can reset the PIN of a customer without knowing old PIN (in case of forgotten PIN). This marks the card in the system back to 'sent-inactive' state and a new PIN-mailer is mailed to the customer. Customer activates the card again on receipt of the PIN-mailer.

Change PIN using old PIN

Customer may choose to change his/her PIN at any time using any of the supported channels. Customer needs to provide card number, CVV and old PIN to change the PIN. Customer's new PIN is encrypted at the point of acquisition and sent in encrypted form to host. OmniCrypto uses HSM to generate the new PIN offset/verification number using encrypted PIN block and updates its database. New PIN becomes effective immediately after the change. Old PIN will no longer work.

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The PIN must be translated as it travels through the system for verification at every intercepting processor/node. OmniCrypto can translate a PIN block to and from any of the above-mentioned PIN block types from incoming PIN encryption key to outgoing PIN encryption key.

OmniCrypto uses Atalla Hardware Security Module for PIN management. It supports the following algorithms for PIN verification:

- *Identikey*
- *IBM 3624*
- *Visa*
- *Atalla DES Bilevel*
- *Diebold*
- *NCR*
- *Burroughs*
- *Atalla 2x2*

OmniCrypto supports the following card verification methods:

- *Visa Card Verification Values (CVV, CVV2, iCVV)*
- *CHIP Card (ARQC)*
- *American Express Card Security Code (CSC)*
- *MasterCard Card Verification Code (CVC)*

Update customer's account information for delivery of card, PIN-mailer & token

An OmniCrypto system user with appropriate privileges can update customer account information. Card and PIN mailer production system always uses the latest customer information in database.

Setup parameters for the Card and PIN Management system

Bank needs to setup various parameters for the system to work properly. Some of the important parameters are:

- Card expiration period
- Default 'personalized' card template
- Default 'non-personalized' card template
- Card activation period
- Maximum card activation failure attempts
- Card production frequency (once a day, once a week etc.)
- Auto card-reissue period
- Auto card-reissue-before-expiry period
- PIN-mailer production frequency
- Non-personalized card distribution table (branch quota of non-personalized cards)
- Index (1-16) of secret credential to be used for card activation
- Card embossing facility interface parameters (whether card-file to be secure ftp'd or sent on a tape, or sent using a real-time secure TCPIP interface, and the destination address to use in each mode)

Interface with a Card Embossing Facility

OmniCrypto supports following ways to send information for card production:

- Send card-file on a tape
- Send card-file using secure ftp
- Send card-file using secure TCPIP

Automatic card-reissue at configured interval

System can be configured to re-issue cards for its customer at regular intervals (like once a year)

Automatic card-reissue at configured period before card expiration

System can be configured to automatically re-issue cards for the customers whose cards are going to expire soon (for example, in a month).

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Supports multiple card types

OmniCrypto supports multiple card types per institution. The CVV code on the back of the card uses a service code corresponding to each supported card type. The card number is generated as per the format specified by the bank, which includes the card prefix and card type.

Automatic or manual generation of card file which can be sent to embossing system using any of the supported methods

OmniCrypto supports automatic generation of the card-file as per the configured frequency and in its internal format. A custom batch job is configured to read the file, convert it into an Embossing Facility's vendor specific format. It is then sent securely to the vendor.

PIN-mailer printing

OmniCrypto PIN mailer provides secure mechanism to distribute PIN information, which needs to be protected from viewing both during production and transport. OmniCrypto generates random PINs and securely sends it to OmniCrypto print server for printing in tamper-proof PIN mailers. Print server handles all error conditions as communication error, printing errors like printer jam and has the retry logic. If after all retries, it can still not print the mailer, it notifies the OmniCrypto to mark the status of the request as failed and generates alert to operations. Operations admin need to reset the system wide flag after correcting the problem to make server retry the failed entries again automatically.

OmniCrypto logs each of the print server requests. On getting status updates from Print Server, OmniCrypto updates status of PIN mailer print requests in its database.

PIN-mailers can be addressed directly to a customer or to a branch address.

Card reporting

OmniCrypto logs all the system activity to an audit database. Using this audit database, it generates a comprehensive daily report about the usage of card production system that includes information like:

- Number of cards requested to be produced
- Number of cards successfully produced
- Distribution of cards produced per branch
- Number of personalized cards produced
- Number of non-personalized cards produced
- Cards produced for each card type

PIN-mailer reporting

OmniCrypto logs all the system activity to an audit database. Using this audit database, it generates a comprehensive daily report about its PIN-mailer printing system that includes information like:

- Number of PIN-mailers requested to be produced
- Number of PIN-mailers successfully produced
- Distribution of PIN-mailers produced per branch

Summary

OmniCrypto is a sophisticated security solution which offers a complete card and PIN management solution for retail banking environments.