Product Sheet

External Host Interface

Exchanging transaction data between Thredd and externally hosted systems

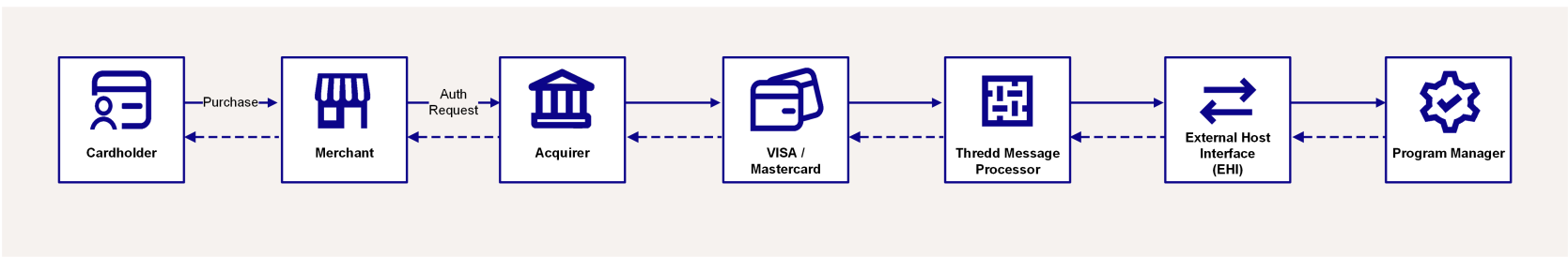
The External Host Interface (EHI) offers a way to exchange transactional data between the Thredd processing system and the Program Manager's externally hosted systems. All transaction data processed by Thredd is transferred to the external host system via EHI in real time. EHI provides two main functions:

Real-time Transactional Data Feed

Thredd receives global real-time [1] card and payment-related notifications from the card schemes (Visa, Mastercard, Discover and Mastercard Network Exchange networks). These notifications are merged into a single Thredd message format which your systems can process. The notifications are sent via a secure connection to the external host URL endpoint you have requested for your program.

Payment Authorisation Control

The payment authorisation process is initiated when a cardholder makes a purchase with a merchant, who then seeks authorisation for the card payment via their acquirer.



When a payment authorisation request is received from the card schemes, Thredd first performs conventional transaction-related card and cardholder checks, such as EMV data, PIN, CVV2, velocity checks and card product checks, and then sends the message in real-time via EHI. Thredd will process your response and respond to the card scheme (Mastercard or Visa). The authorisation decision process is in real-time[1].

Benefits

Where you manage authorisation

- Provides you with full control over the authorisation process
- Thredd can perform Stand-in Processing (STIP) when your systems are unavailable[2]
- Thredd performs message verification and validation checks before passing on to the external host
- Rapid, real-time responses
- You receive authorisation and financial advices for all transactions
- Flexible choice of transaction processing options

Where Thredd manages authorisation

- Thredd manages the authorisation process on your behalf and updates the card balance ledger on your behalf
- Quicker launch to market as you don't need to build a balance authorisation engine
- Thredd performs message verification and validation checks
- Thredd performs matching and balance adjustments as required
- You receive authorisation and financial advices for all processed transactions

[1]Realtime or near real-time for transaction authorisations; may be subject to network and other processing delays. CVV2 checks can be managed by your systems if required.

[2]When your systems cannot be reached due to issues such as network issues, system downtime or system maintenance.

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Transaction Processing Options

Thredd provides flexible EHI transaction processing options, where you can use a combination of your own systems and Thredd. Below is a summary of the available options.

Gateway Processing

Your systems maintain the card balance – you make the authorisation decision and respond to Thredd to indicate whether the transaction can be approved or declined.

Note: Thredd can provide Stand-In Processing (STIP) if your system is unavailable, approving or declining on your behalf.

Cooperative Processing

Thredd maintains the card balance – Thredd approves or declines and sends the response to your systems, where you can overrule the Thredd approve or decline decision.

Alternative setup:

Approval with load – with this option your external host systems can approve an authorisation request with a simultaneous instruction to Thredd to load an amount to the card (for updating the Thredd-maintained card balance ledger).

Note: Thredd can provide Stand-In Processing (STIP) if your system is unavailable, approving or declining on your behalf.

Full Service Processing

Thredd maintains the card balance – Thredd makes the authorisation decision and provides you with the response.

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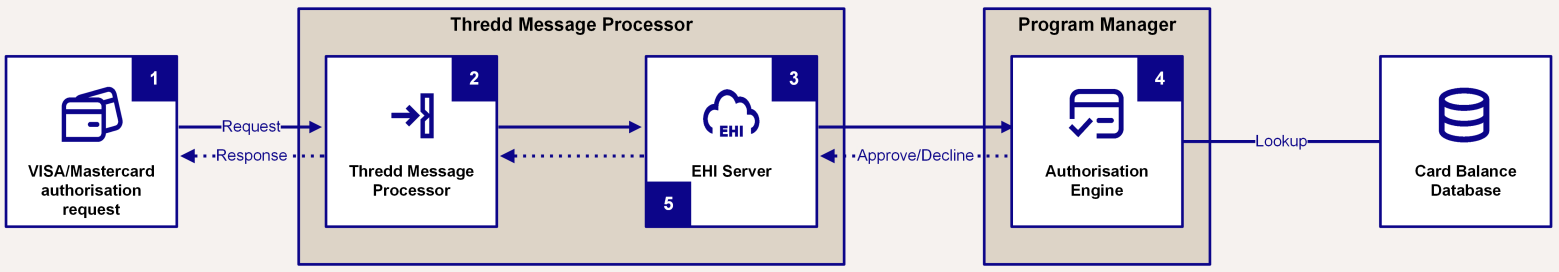
How it works

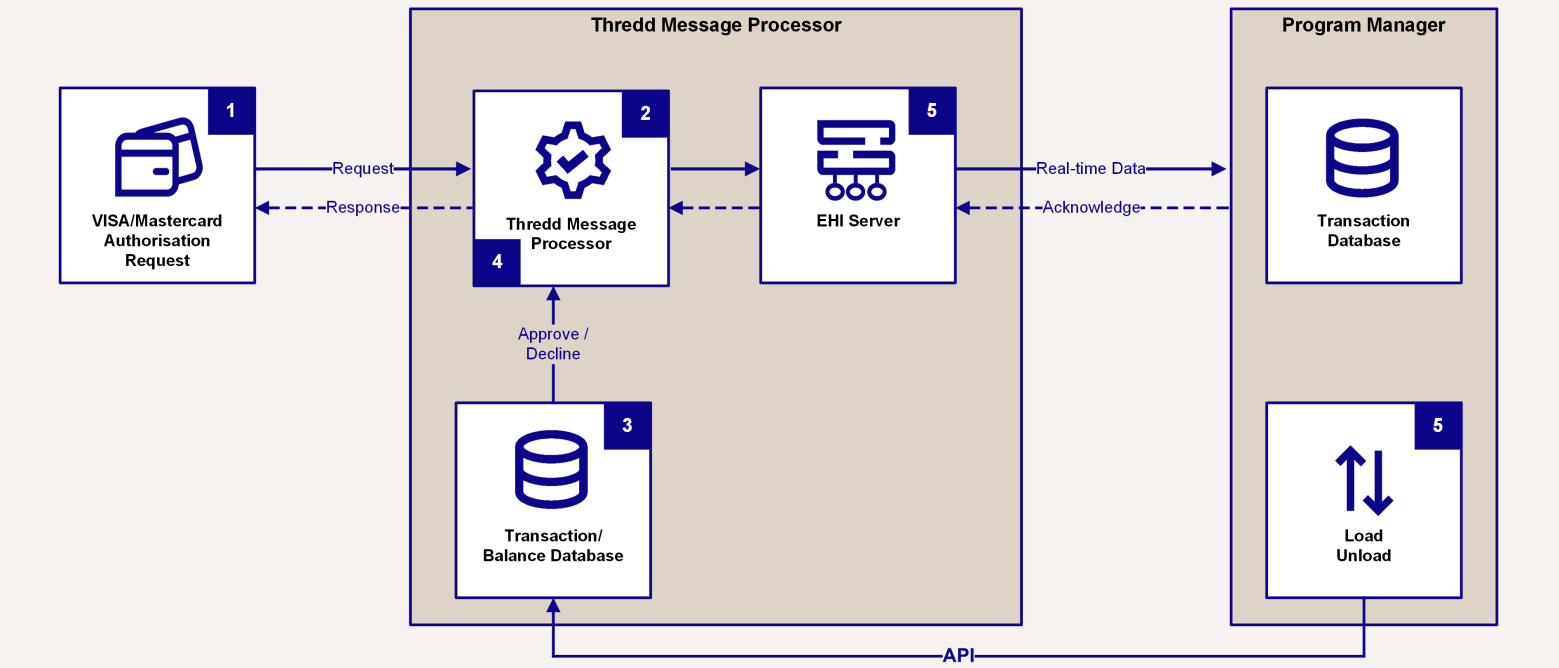
The figure below provides an overview of how EHI works, using examples for Gateway Processing and Full Service Processing.

Gateway Processing



1. The card scheme (Visa or Mastercard) sends an authorisation request.
2. The Thredd Message Processing System (MPS) performs checks such as authentication, validation and real-time fraud monitoring, as well as checks based on your product configuration. (This will result in a decline if the checks fail. In this case Thredd will send an advice only to the Program Manager and no authorisation decision is required.)
3. The EHI server sends the authorisation request to the external host URL endpoint configured for the Program Manager.
4. The external host (the Program Manager's systems) then decides whether to approve or decline the transaction, using fraud screening and checking the current card balance.
5. The EHI server waits for a response from the external host. The response must be received within the allowed time period or the transaction will be declined. When received, this is forwarded to the card scheme.

Full Service Processing



1. The card scheme (Visa or Mastercard) sends an authorisation request.
2. The Thredd Message Processing System (MPS) performs checks such as authentication, validation and fraud protection, as well as checks based on your product configuration.

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3. Thredd decides whether to approve or decline the transaction, based on the checks in step 2 plus checking the current card balance. Thredd updates the balance.
4. Thredd sends the approve or decline response Threddto the card scheme.
5. The EHI server sends an advice with the transaction outcome, including the latest card balance, to the external host URL endpoint configured for the Program Manager.

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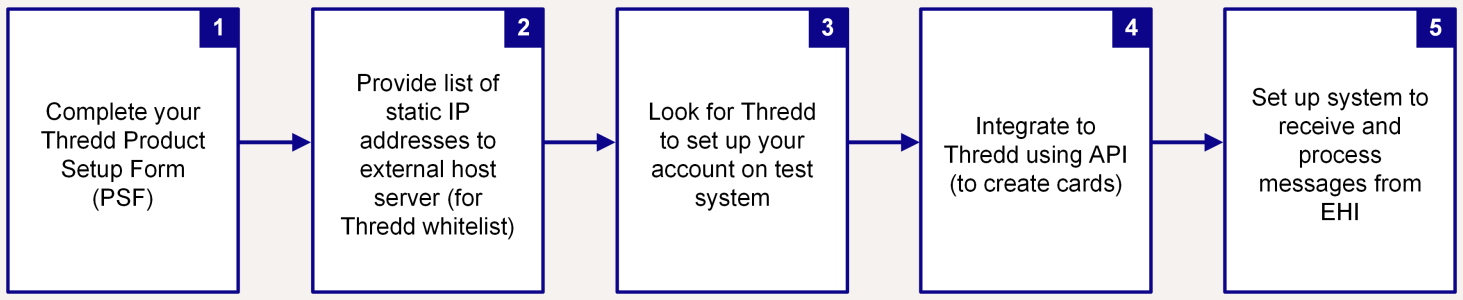
Setup At-a-Glance

Below is a high-level view of the setup steps.



1. Your product manager can assist you in completing your Thredd product setup form.
2. Provide Thredd with a list of static IP addresses to your external host server for Thredd to allow access to.
3. Thredd will set you up on the Thredd Test system and will:
    - Provide you with your user credentials to access the Thredd Test system.
    - Set up your External Host URLs on EHI for sending EHI messages:
        - You can provide a single URL for receiving all transaction types (e.g., real-time, non-real-time and financial message types). You can also set up a Disaster recover (DR) URL, for receiving messages if your primary systems are unavailable.

Note: The External Host URLs you provide need to resolve to the static IP addresses you provided to Thredd.

4. Integrate to Thredd using the Web Services API, in order to create cards and load them with funds.
5. Set up your system to be able to receive and process messages from EHI. Your systems should be able to:
    - Check for duplicate messages, respond to and acknowledge EHI messages.
    - Match and process transactions.
    - Process EHI message fields.

EHI Setup Notes

- For Gateway Processing and Cooperative Processing options, where you provide the approve or decline decision for an authorisation transaction, make sure your systems can process the EHI messages and block the available card balance accordingly.
- For Gateway Processing and Cooperative Processing options, where you maintain the balance, make sure your systems can process the EHI financial messages and update the card balance accordingly.
- You can use the Card Transaction System (CTS) to submit test authorisation and financial transactions to the test environment. You can create test transactions for different use case scenarios (e.g., POS, ATM, ecommerce and MOTO payments).

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FAQs

Q. How do I change my EHI configuration?

Contact your Implementation Manager or Account Manager to discuss any changes you require.

Q. What URL endpoint configuration options are available for receiving EHI messages?

You can set up a single URL endpoint for receiving all transaction types.

You can set up a DR (Disaster Recover) URL to use if your systems are unavailable.

Q. Which gateway transaction processing option should I choose?

Thredd transaction processing options(Gateway, Cooperative and Full Service Processing) are configured when your account is set up on the Thredd platform.

You should select your transaction processing option based on how you want the balance on the cards in your programme to be held and how you want to handle payment authorisation transactions. You can explore options using the Thredd EHI Transaction Option Selector Wizard.

Q. Can I use more than one transaction processing option?

You can only choose one EHI transaction processing option per product.

Q. Can I change my transaction processing setup?

Yes. The following are typical reasons why you may decide to change your transaction processing setup at a later stage:

- You started using Full-Service Processing for convenience and to launch your service quickly, but later decide to maintain your own card balance ledger and payment authorisation process. In this case, you could switch to Gateway Processing.
- You started using Gateway Processing, but due to processing issues and timeouts on your end, you switch to Gateway Processing with Thredd stand-in processing (STIP) when your systems are unavailable.

Q. How do I change my transaction processing setup?

To change your transaction processing setup, please contact your Account Manager.

Note: Your Account Manager will need to fully assess and cost any changes to your transaction processing option.

Changing your transaction processing option may require changes to how Thredd and your systems maintain the card balance and respond to authorisation requests. It may also require other EHI configuration changes and testing.

Q. Where can I find out more?

For more information on EHI, refer to the External Host Interface (EHI) Guide or contact your Account Manager.

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