# Web Services

A flexible way to interface to Thredd to create and manage the cards in your program

Create cards and manage the cards in your program using the Thredd web services.

The Thredd web services provide a flexible way to interface to Thredd to create and manage the cards in your program. Card enrolment in services such as 3D Secure, tokenisation and Agency Banking are also managed using web services.

The Thredd web service is based on SOAP Version 1.1. SOAP (Simple Object Access Protocol), which is a messaging protocol for exchanging structured information in the implementation of web services. SOAP uses Extensible Markup Language (XML) for its message format and relies on application layer protocols such as HTTP for message negotiation and transmission. The web service allows developers to invoke processes running on disparate operating systems (such as Windows, macOS, and Linux) to authenticate, authorise and communicate using XML.

You can develop applications that communicate with the Thredd Platform using Web Services API. See the figure below.
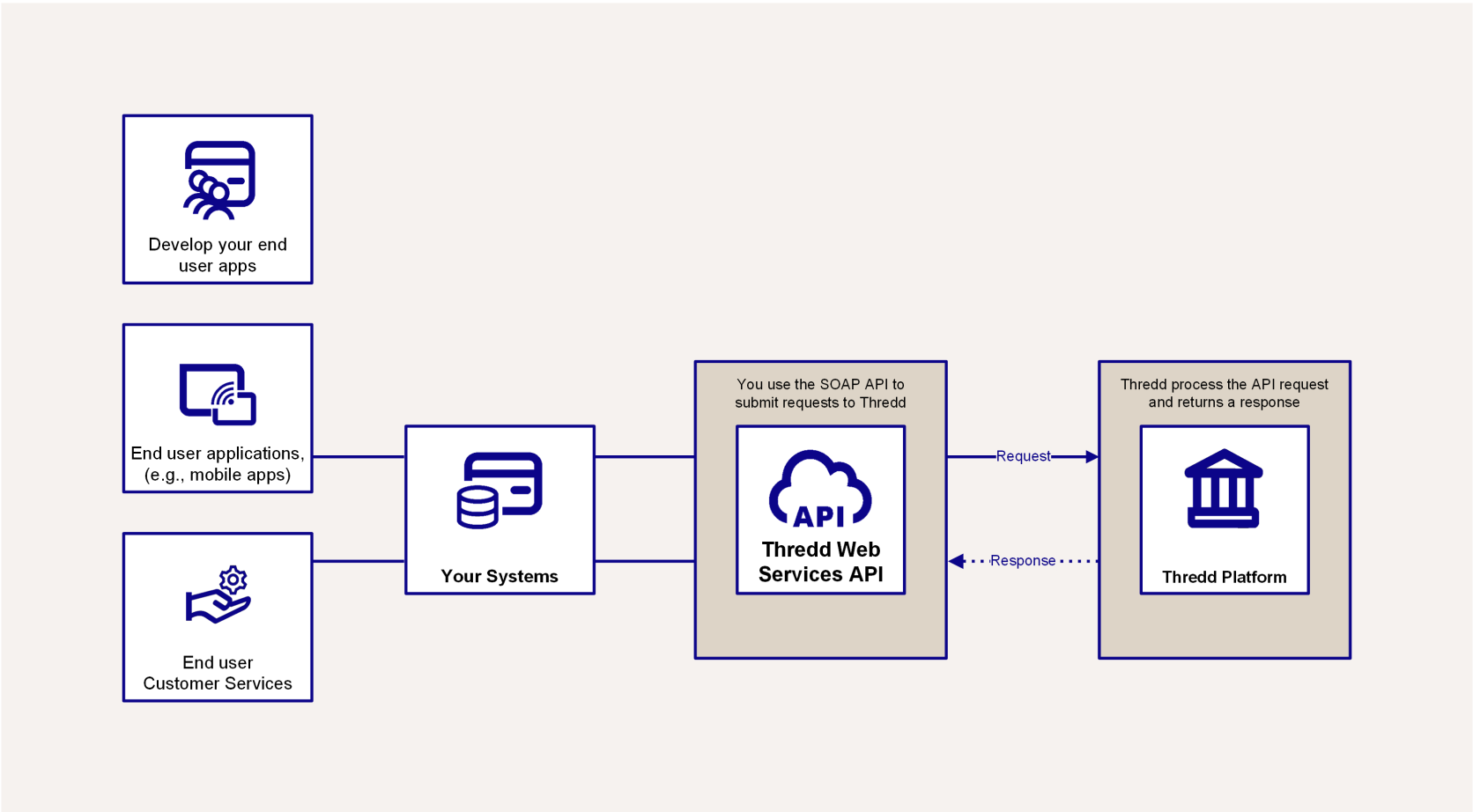
Features

Business Facing

- Access to a broad range of flexible API
- Create both physical, virtual and Master Virtual cards
- Create cards and wallet accounts in bulk
- Activate and deactivate cards, renew expired cards and change card status
- View and manage the card balance
- Apply controls to where and how your cards can be used
- Enrol your cards in 3D Secure
- Tokenise your cards and manage token services
- Enrol cardholders in banking services

Customer Facing

- Run card enquires
- View details of the balance on their cards
- Activate the card
- Report cards as lost or stolen
- Block and unblock the card
- Reset the card PIN
- View details of fees and other transactions on the card

Web Services API

Below are examples of some of the available web services. For a full list, see the Web Services Guide.

Create, activate and load cards

- Create a card
- Bulk create cards
- Create wallet
- Activate card and load
- Card phone activation
- Card load and unload
- Activate and load Master Virtual Cards (MVCs)

Manage the card

- Change card status
- Link cards (in primary and secondary relationship)
- Update cardholder details
- Update and set the card PIN
- Convert a virtual card to a physical card
- Send email/SMS message to cardholder
- Get card's expiring soon
- Extend expiry date
- Renew a card
- Void a web service transaction
- Reset transaction and amount counters

Card Usage Groups

- Change a card's usage group
- Link cards to Allow and Deny lists (of permitted merchants and websites)
- List card products
- List card groups
- Bulk change card groups

Manage the balance on the card

- Card balance enquiry
- Card balance transfer
- Balance update
- Balance adjustment

Card fees

- Apply a card fee
- Apply an FX rate
- List card fees
- List pending fees

3D Secure service

- Enrol cards in 3D Secure
- Add, update and delete 3D Secure credentials for a card
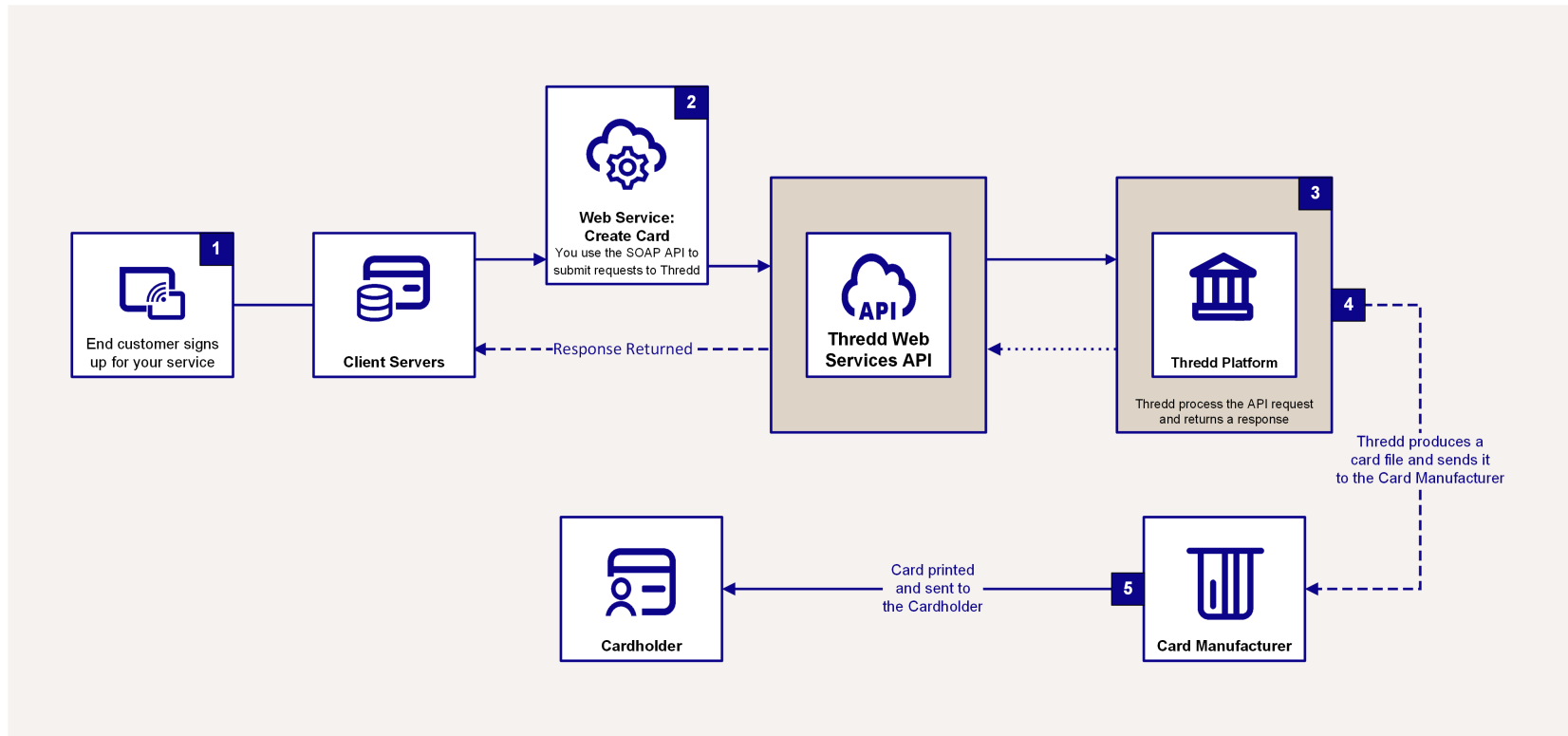
Tokenisation service (Visa (VDEP) and Mastercard (MDES) Tokenisation service)

- Get payment token
- Change payment token status
- Manage the token bound to a device
- Create a payment token

How it works

The figure below provides an example of how the create card web service works.

1. Your customer signs up for your service on your website and via your Customer app.

2. Use the web services API to submit create card request to Thredd.

3. Thredd create the card record, generate a unique PAN for the card and return a unique 9-digit Thredd public token in the response. You can use the public token for any future web services API calls on the card, without needing to use the PAN.

4. Once the card record is created, for a physical card, Thredd produces a card file and sends it to the card manufacturer.

5. The card manufacturer prints the card and sends it to the delivery address configured in the card file (typically the customer's address).

Managing your cards

You can use the 9-digit Thredd public token of the card record to perform query and update requests on the card. Examples of typical web service activities include: activating the card, loading funds onto the card, changing the card status, updating the PIN, unblocking a PIN, checking the card balance, balance adjustments and renewing expired cards.
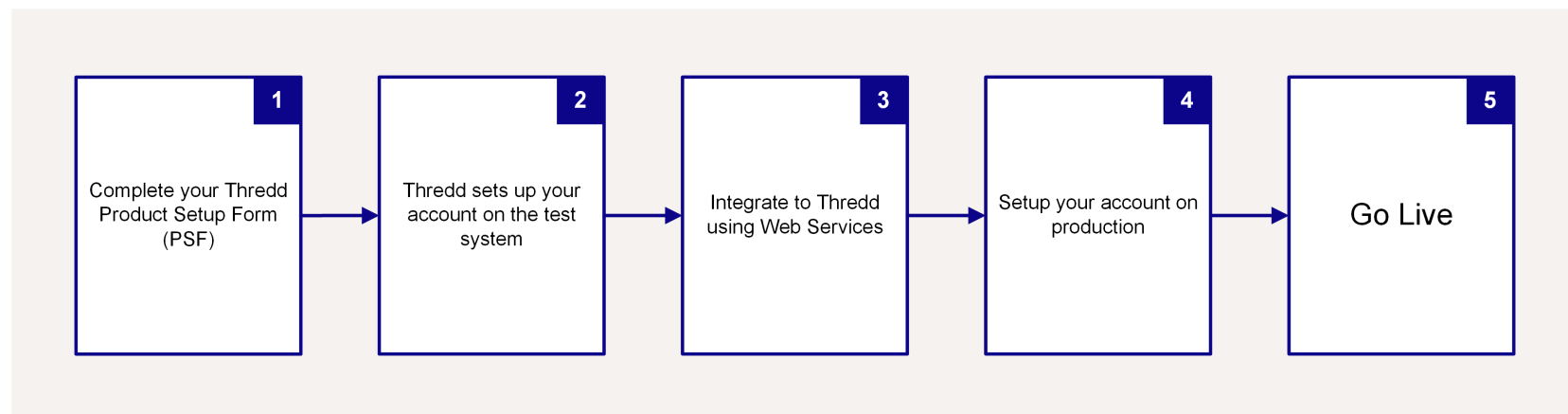
Card usage groups

The card usage groups set up for your card program determine how and where the card can be used (e.g., controls over daily spending limits, permitted merchants, and use in-store and at ATMs). Cards can be automatically linked to the usage groups set up for your card product, or you can use the web services to link your cards to appropriate usage groups.

Setup At-a-Glance

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

1	2	3	4	5
Complete your Thredd Product Setup Form (PSF)	Thredd sets up your account on the test system	Integrate to Thredd using Web Services	Setup your account on production	Go Live

Step 1. Complete your PSF

Make sure you have completed your Product Setup Form (PSF), to enable Thredd to configure your program-specific Thredd setup.

Enable exchange of security keys between Thredd and your card manufacturer, so that we can generate the PAN stock in our systems, which is required to create physical cards.

Step 2. Thredd set up your account on the Test System

Thredd will provide you with access to a generic Thredd test product setup, shared by all of our clients, where you can start exploring the web services.

Thredd configures your dedicated program on the test environment, with unique credentials.

Provide Thredd with a list of IP addresses allowed to use the web services. You will require secure access to Thredd systems in order to use the web services.

Step 3. Integrate to Thredd

Submit test web services transactions to the Thredd test system. View the results and fix any errors. Build your front-end user application with the SOAP API functionality included.

If required, create test card tokens and generate white test plastics. These are generic, non-branded cards with test keys on the card. Your Implementation Manager will work with your card manufacturer to produce test cards.

You can use our Card Transaction System (CTS) to simulate transaction processing on the card in various scenarios (e.g., POS PIN entry, POS Chip&Pin, e-commerce and recurring authorisations and financial messages) and test how your systems are able to process Thredd messages sent to your systems via the External Host Interface (EH). For more information see the Card Transaction System (CTS) Product Sheet.

Step 4. Set up on Production

Thredd provides you with production credentials and generates a limited number of PAN stock, as approved by your card issuer. Additional end-to-end transaction testing is required at this stage.

Step 5. Go Live

When ready to go live with your service, check that your Thredd contracts are signed and payments are up to date.

Thredd pavement testing approval is required in addition to any Issuer sign-off before we can switch your account to *Active*.

FAQs

Q. Where can I view details of your supported web services?

For a full description of the available web services, see the Web Services Guide.

Q. How can I test the web services?

Thredd offer a generic test environment for trying out the web service, prior to integrating. You will need to be set up with secure access to Thredd systems and permission-listing of your static IP addresses to use this service.

Q. Do I need to be PCI compliant to use the web services?

No. When a card record is created, Thredd generates a unique 9-digit number, called the *PublicToken*, which is linked to the card and can be used in all web service requests on the card. This alleviates the need of providing the full PAN.

Q. Does Thredd charge for using specific web services?

Some types of web service transactions may incur additional charges when used. Please refer to your contract for details.

Q. Is there a way to apply automated fees to my cards?

Yes. Thredd offers a Fees Module, which enables you to set up fees based on card usage and card activity. You can also set up recurring fees, e.g., subscriptions. For more information, see the Thredd *Fees product sheet* or Fees Guide.

Q. What's the difference between a physical and a virtual card?

A virtual card is provided as an image on a smart phone or customer's account, and is typically restricted to online or e-commerce usage only. A physical card is printed and can be used online, in a store or for ATM queries and withdrawals.

Thredd offers a service that enables you to convert a virtual card to a physical card, via web services. For more information on setting up a virtual card product, see the Virtual Cards Guide.

Q. How do I set up a card manufacturer to produce my physical cards?

You will need to sign a separate agreement with a card manufacturer. Additional setup and testing steps are required to generate your card plastics. For more information, see the Web Services Guide.

For a list of manufacturers currently supported by Thredd, please contact your Thredd Business Development Manager or Account Manager.

Q. If we are using web services, do we need EHI?

The External Host Interface (EHI) provides a real-time transactional and authorisation data feed to your systems. We strongly recommend that all Thredd customers use EHI, in particular for obtaining and processing details of real-time payment authorisation requests, and for maintaining details of the card's available balance. For more information, see the *External Host Interface (EHI) product sheet* or External Host Interface (EHI) Guide.

Contact Us

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Technical Publications

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