Stripe Invoice API Review

Review Date: *February 1st, 2024*
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This is a review of the Stripe Invoice API, evaluating what is being done well with the design and presentation of the API, while also considering some areas that could use some more investment.

What is Done Well..

Overall, the Stripe Invoice API is a well designed API, possessing the fundamental HTTP patterns you find across many common web APIs. Let's look at each area of the OpenAPI for the Stripe Invoice API, which describes the surface of the API.

OpenAPI

OpenAPI enables us to see the surface area of the Stripe Invoice API, and since they support version 3.1.0 of OpenAPI, it reflects the latest when it comes to using a contract to describe an API.

- ✅ Using OpenAPI Version 3.1.0

Info

Stripe provides a rich set of metadata about the Invoice API, making it easy to understand what the API does, who to contact, the version and legal information for putting the API to work.

- ✅ Title for the API
- ✅ A Description
- ✅ Contact Information
- ✅ Contact Name
- ✅ Contact URL
- ✅ Contact Email
- ✅ Terms of Service
- ✅ Version

Paths

The paths for the Stripe Invoice API are simple and intuitive, providing an intuitive set of resources that go beyond simple create, read, update, and delete, while providing the ability to further manage the state of resources.

- ✅ Effective Use of Verbs
- ✅ Path Trailing Slash

Operations

Each individual operation for the Stripe Invoice API has a description, and offers a unique identifier for use in code generation and other areas.

- ✅ Operation Description
- ✅ Operation Identifier

The Invoice API provides an intuitive set of operations that reflect the common aspects of managing invoices as a regular part of business.

Parameters

Query and path parameters used for the Stripe Invoice API are clearly defined, have descriptions, while also defined as required and have the type properly defined, allowing for validation.

- ✅ Parameters In (Query, Path)
- ✅ A Parameter Description

- ✅ Parameter Required Property
- ✅ Parameter Schema Type

Request Bodies

The Stripe Invoice API uses form URL encoded request bodies with descriptions, schema, and the shape of the payload somewhat defined.

- ✅ Request Body POST
- ✅ Request Body Application X WWW Form URL Encoded
- ✅ Request Body Schema
- ✅ Request Body Schema Description
- ✅ Request Body Schema Required
- ✅ Request Body Schema Property Array Items
- ✅ Request Body Schema Property Array MaxItems

Responses

The responses for the Stripe Invoice API are a pretty straightforward JSON response, with a 200 success response, and a default catch all response for everything else.

- ✅ GET Response Has 200 Status Code
- ✅ JSON Media Type GET
- ✅ Schema GET
- ✅ Schema Default

Schema

Each request body and response for the Stripe Invoice API have centralized schema stored in the components object, with much of what you will need to properly validate a request or response in common tooling.

- ✅ Schemas have descriptions
- ✅ Schema Type
- ✅ Schema Required
- ✅ Schema Properties Format
- ✅ Schema Description
- ✅ Has schema property string maxlength.
- ✅ Schema Property Type String Pattern
- ✅ Schema Property Array Items
- ✅ Schema Property Array MaxItems

The Stripe Invoice API is a simple, intuitive, yet powerful API, reflecting what you expect of a modern web API. With that said, there is always more that can be done to make an API more usable.

What Can Use Improvement…

Overall the Stripe Invoice API is a low B, but with some more work the API could be a B+ or an A when it comes to the design, and OpenAPI contract made available to describe the surface area of the web API.

Info

As stated above, the Stripe Invoice API has a wealth of metadata, but it would be helpful to complete it with some licensing information guiding its usage, and alleviating any concerns with consumers.

- ⚠ License Object

Paths

While it does bring versioning front and center, putting versioning in the path is not an ideal pattern, and something that would be better served as a header, and defined as part of the transport.

- ⚠ Version In Path

Operations

One of the most glaring things that could use investment with the OpenAPI for the Stripe Invoice API is the absence of summaries, which help reduce the cognitive load with APIs–the absence of tags only make worse when it comes to discovery and onboarding.

- ⚠ Operation Summary
- ⚠ Operation Id Camel Case
- ⚠ Operation Tags

Parameters

Like operations, it helps to have descriptions for query and path parameters. It also isn’t always clear which parameters are required, and what the schema type is for parameters, potentially introducing confusion.

- ⚠ Parameter Description
- ⚠ Parameters Required Property
- ⚠ Parameter Schema Type

Request Bodies

To help improve the details of request bodies for the Stripe Invoice API it would help to provide descriptions for all schema, and further define the arrays that are used as part of payloads.

- ⚠ Schema Description
- ⚠ Request Body Schema Property Array MaxItems

Responses

While the Stripe Invoice API provides a general default response, it can be helpful to be explicit with the most common types of errors encountered with responses, potentially providing more details. Another area that is not standardized is that POST responses do not return a 201, and simply return 200.

- ⚠ POST 201 Status Code
- ⚠ 500 Status Code for GET Responses
- ⚠ 500 Status Code for POST Responses
- ⚠ 404 Status Code for DELETE Responses
- ⚠ 500 Status Code for DELETE Responses

Schema

The schema used as part of the Stripe Invoice API could use more descriptions for the schema and properties, as well as more detail about what is required and the shape of schema so that they can be better validated.

- ⚠ Schema SHOULD have a description.
- ⚠ Schema Required
- ⚠ Schema Properties Type
- ⚠ Schema Description
- ⚠ Require schema property string maxlength.
- ⚠ Schema Property Array MaxItems

Conclusion

The Stripe Invoice API is a pretty simple example of what an API should be. The suggestions to improve are slim here because Stripe has the experience needed to deliver APIs that get used. This report provides a review of the Stripe Invoice API but also provides a helpful blueprint for any API, which can be easily applied across any business domain.