The OpenAPI Standards Landscape: A Year of Innovation

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OpenAPI Standards

OpenAPI Intiative publishes three open standards for APIs:

- OpenAPI: describe an API
- Overlay: describe improvements to an API
- Arazzo: describe a sequence of API calls

OpenAPI

OpenAPI

How to describe an API:

- overview
- endpoints
- requests
- responses
- security

YAML or JSON format

Overlay

Overlays Improve OpenAPI

Overlays describe a series of "actions" to update or remove parts of an OpenAPI description.

Common use cases:

- remove private/internal endpoints before publishing
- improve summary/description/example values
- add tool-specific extensions
- fill in repeated content like error responses

Overlay Example

Add a tag to all DELETE operations

```yaml
overlay: 1.0.0
info:
  title: Tag delete operations as restricted
  version: 1.0.0
actions:
- target: $.paths.*.delete
  update:
    tags:
      - x-restricted
```

Actions are executed in the order they are declared

API Description Pipelines

OpenAPI description is not a single file.

- combine sources into one description
- improve and fill gaps if needed
- send file to multiple destinations (docs, SDKs, etc)
- apply destination-specific transforms on the way

Arazzo

Arazzo

Arazzo describes sequences of API calls.

Outline complex API workflows so that:
- documentation can describe the steps
- SDKs can wrap multiple API calls into one task
- multi-step API scenarios can be tested

Arazzo Structure

Arazzo describes:

- workflows

- containing steps

- can reference OpenAPI descriptions

- steps have success and failure criteria

- input variables and step outputs can be used in later steps

Arazzo Example

```yaml
arazzo: 1.0.0
info:
  title: Public Zoo API
  version: '1.0'
sourceDescriptions:
- name: animals
  type: openapi
  url: ./animals.yaml
workflows:
- workflowId: animal-workflow
  parameters:
      # ...
  steps:
    - stepId: get-step
      operationId: $sourceDescriptions.animals.getRandomAnimal
```

Arazzo Workflows

Use Arazzo:

- for your own APIs
- to improve integrations and consume APIs
- for testing
- and more to come

What's Next in OpenAPI

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What's Next in OpenAPI

- "soon" : OpenAPI 3.2
  - additional security fields
  - path/URL templating improvements
  - extended and nested tags

- "later": OpenAPI 4.0
  - project codename: Moonwalk

OpenAPI Community

OpenAPI Community

Start here: https://openapis.org

- Public GitHub activities
- Slack for discussions
- Regular public meetings for various groups
- Newsletter to get some high-level updates

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OpenAPI Landscape

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Resources

- https://openapis.org
- https://lornajane.net
- https://apisyouwonthate.com/

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