

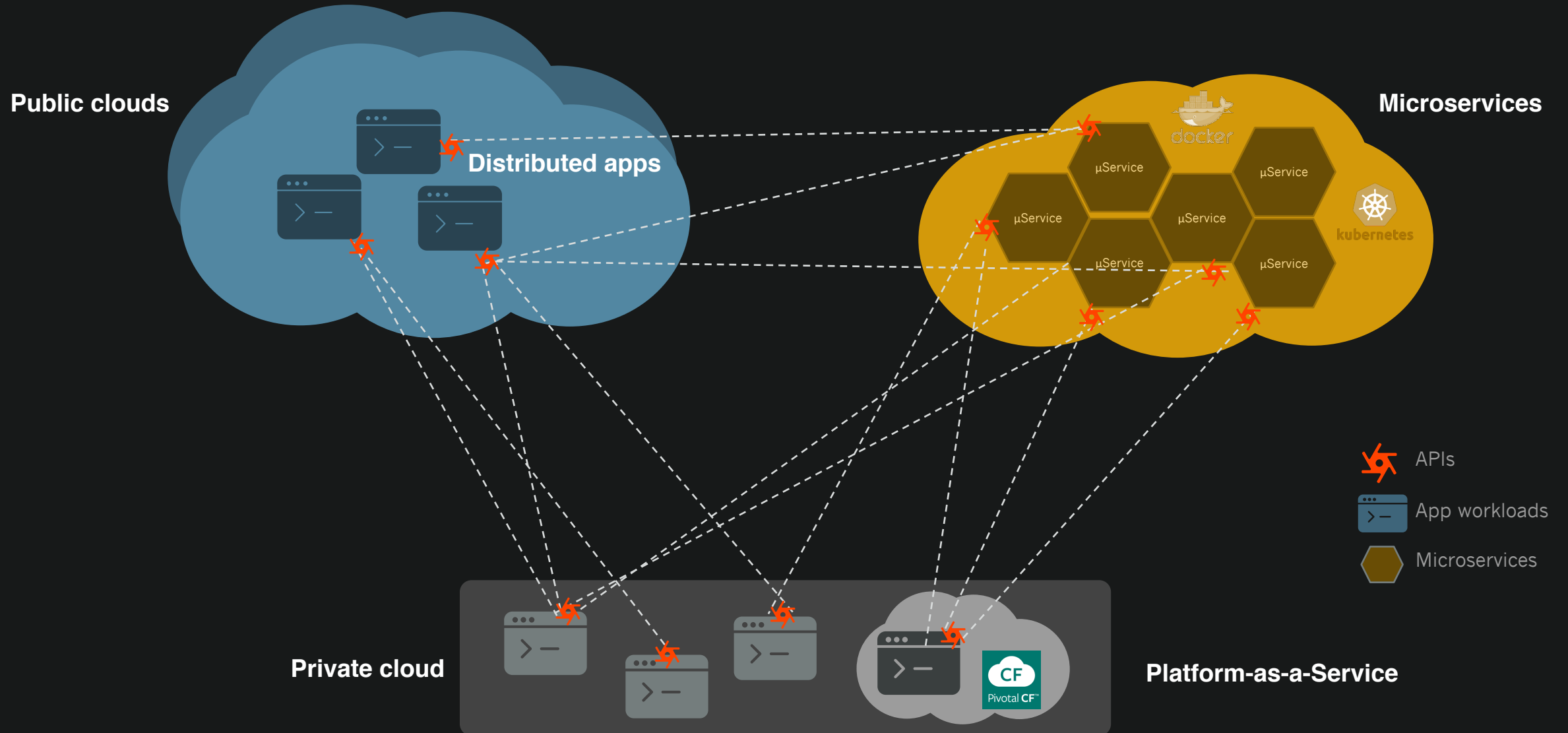


API Best Practices

Managing APIs holistically across the enterprise



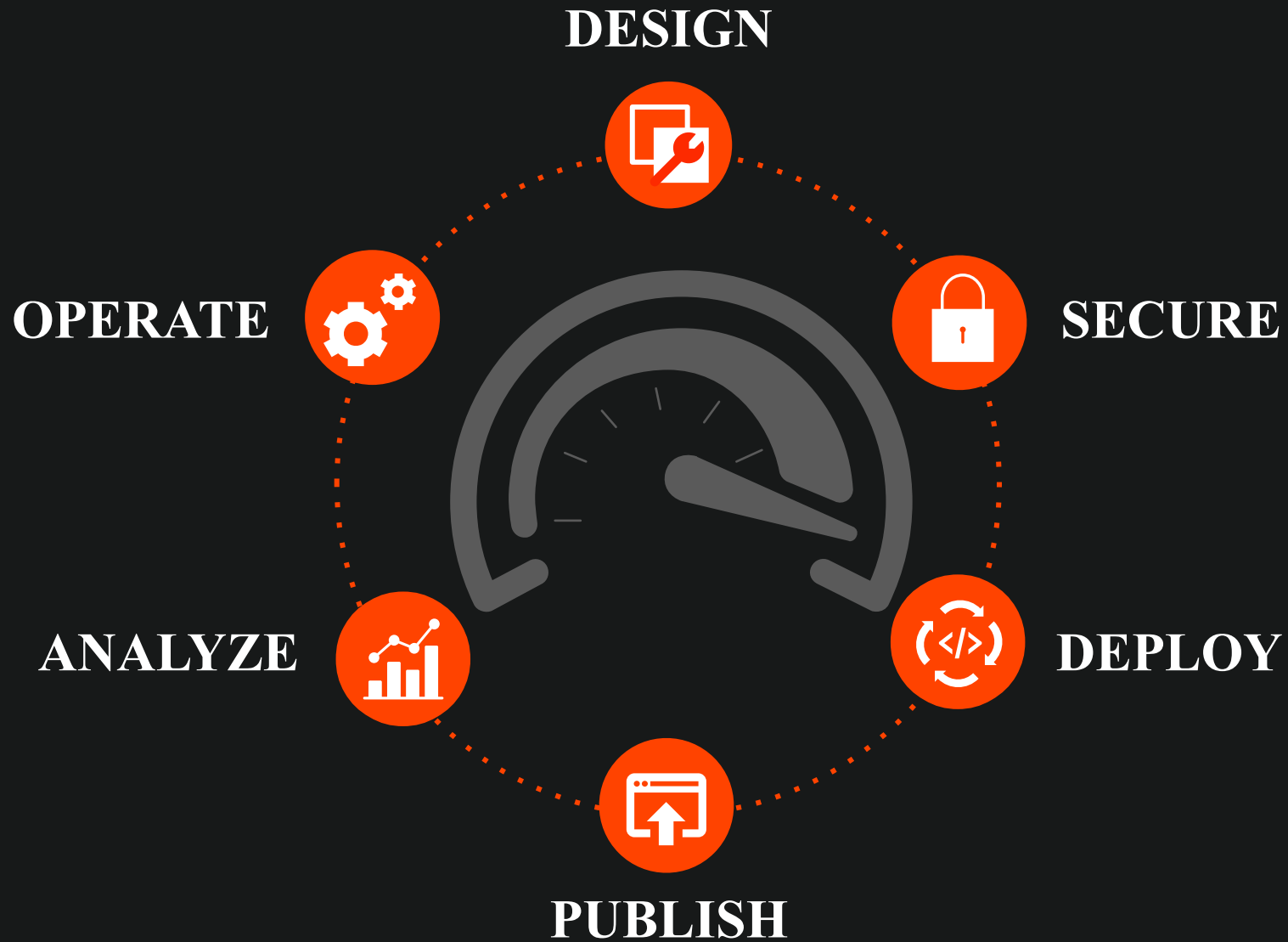
APIs are critical to evolving application architectures

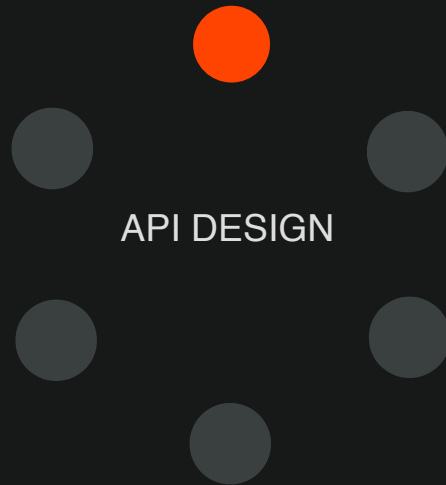


Companies need to address these new challenges ...



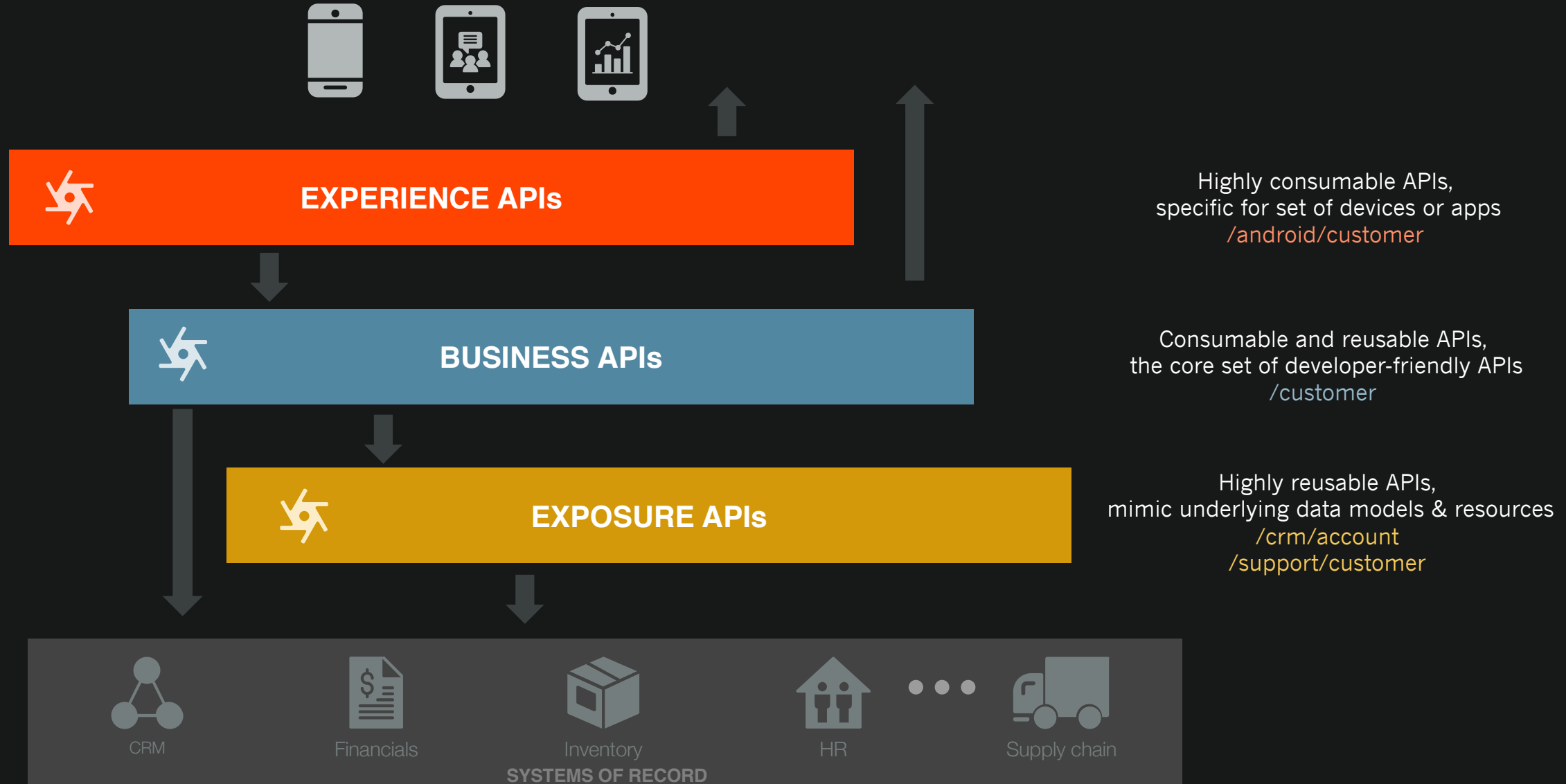
... by managing APIs holistically across the enterprise

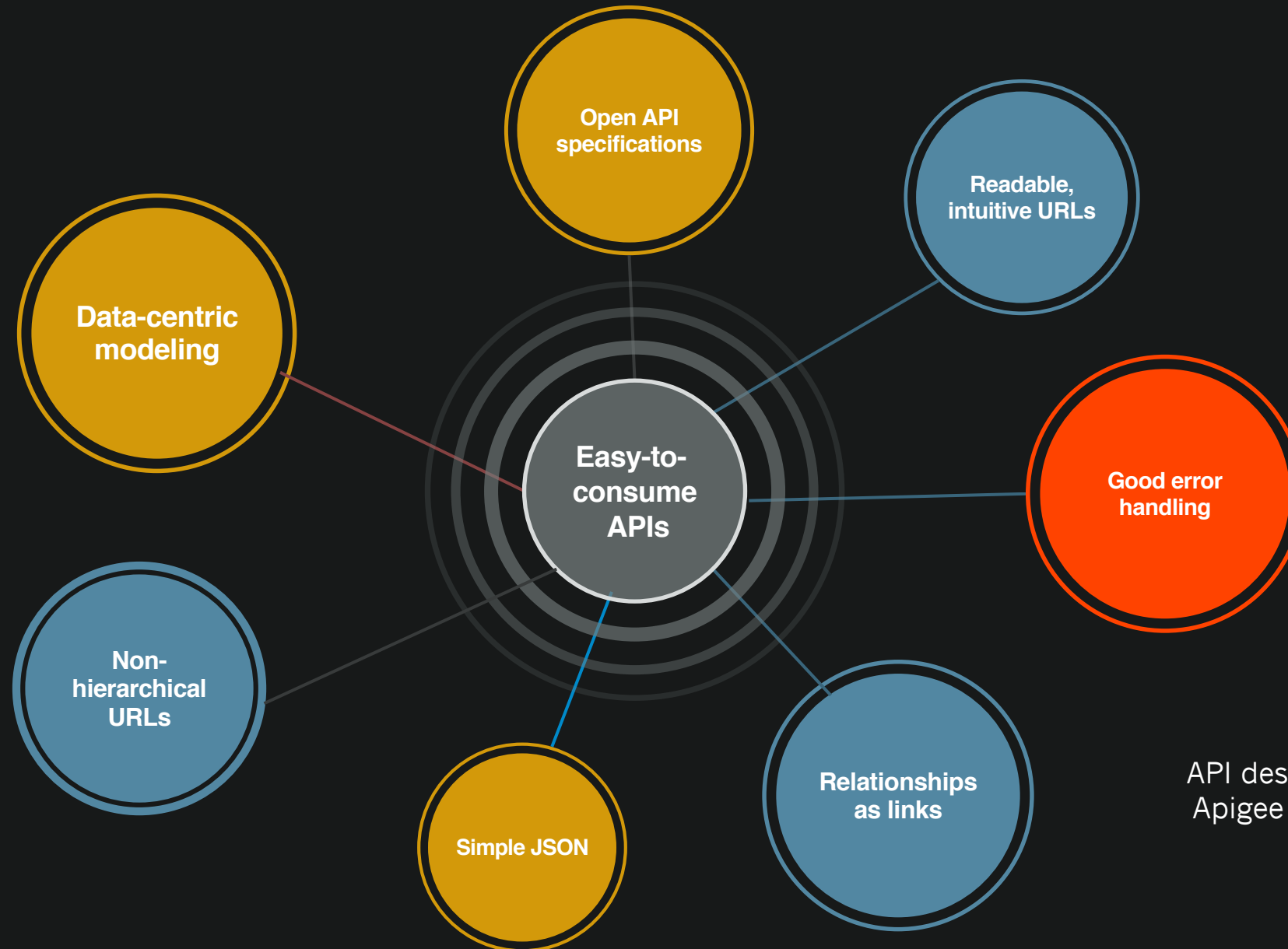




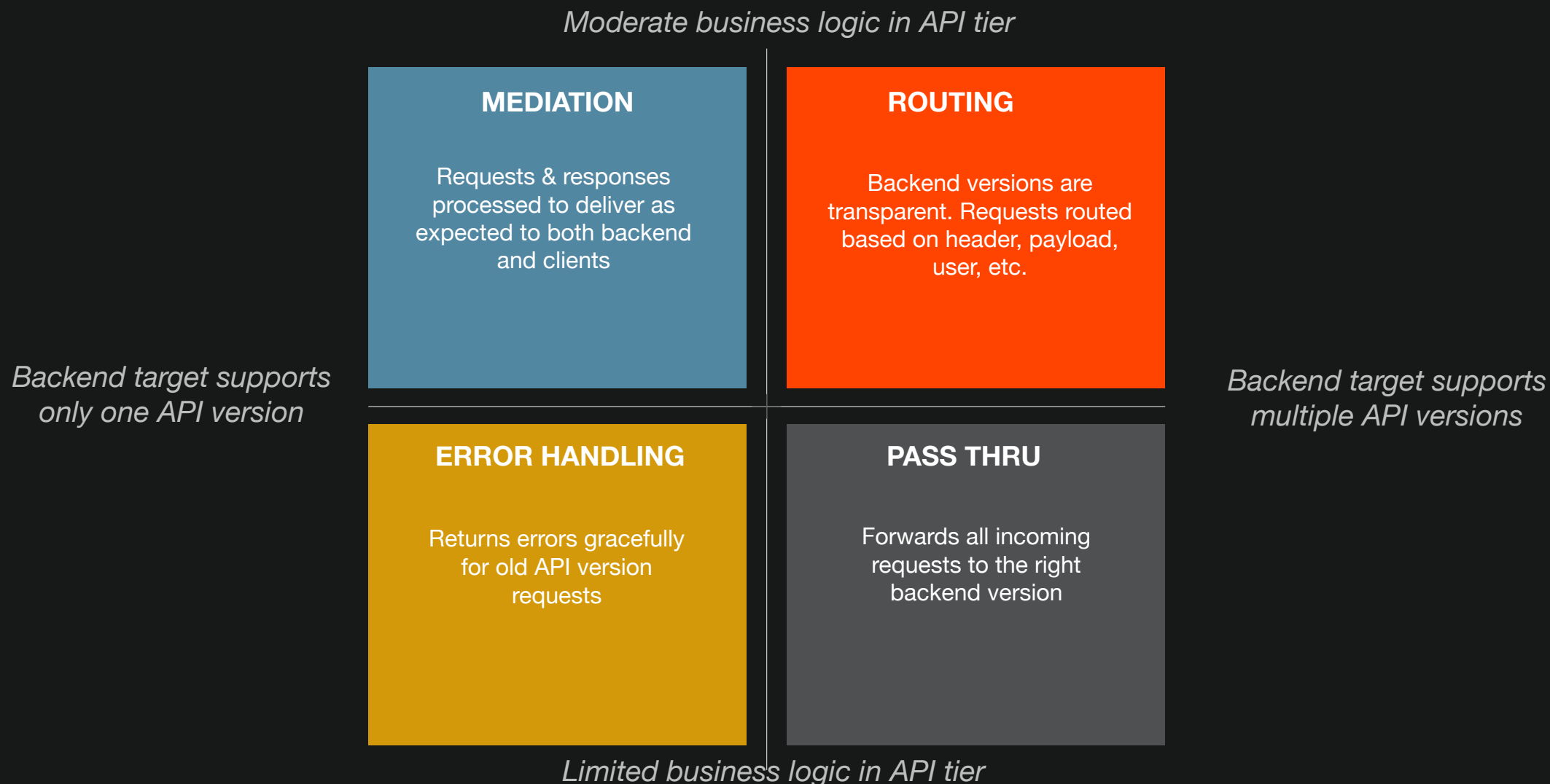
Design and build your APIs
focusing on ease of use for
app developers

Adopt an API-first, layered strategy for agility



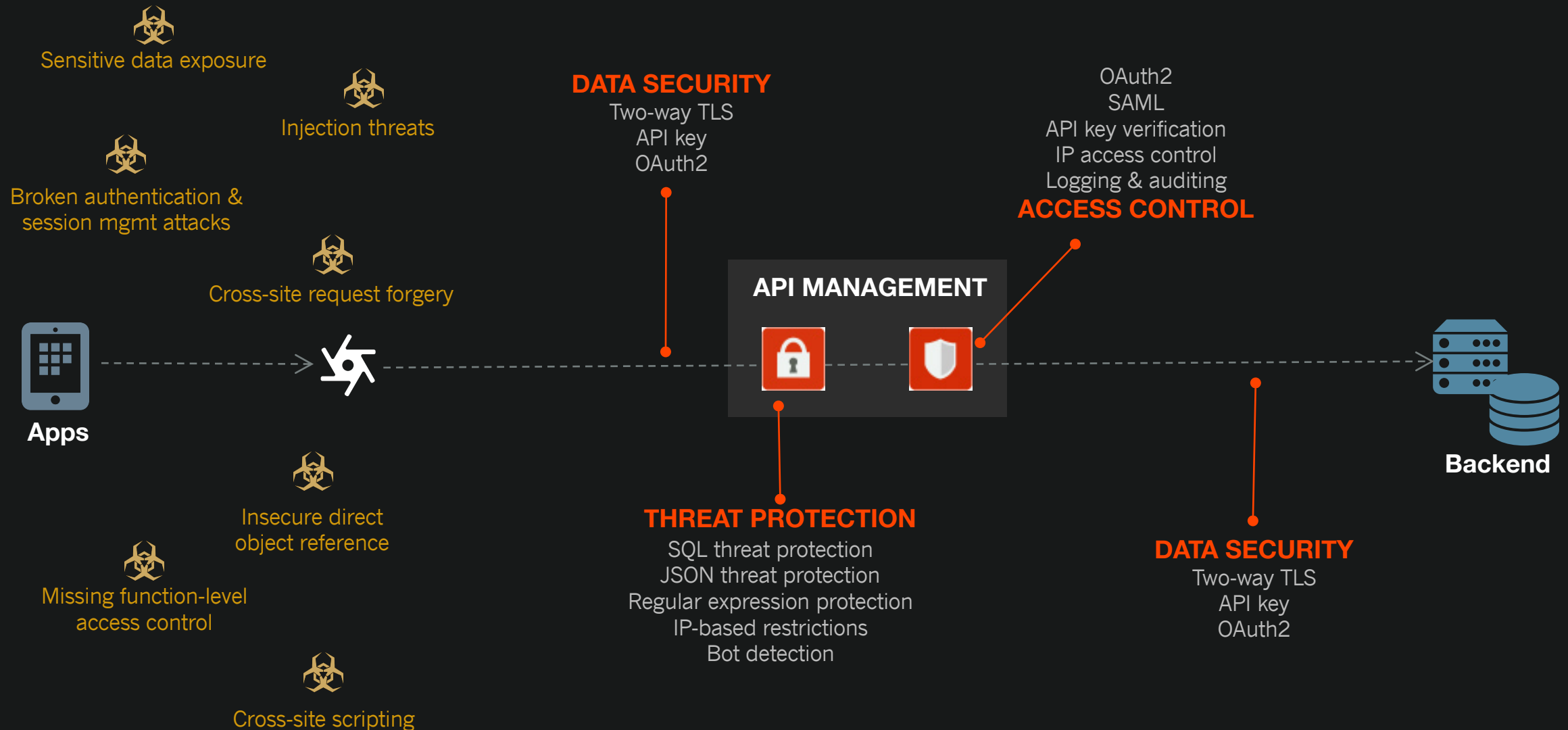


Get detailed
API design best practices in the
Apigee [Web API Design ebook](#)

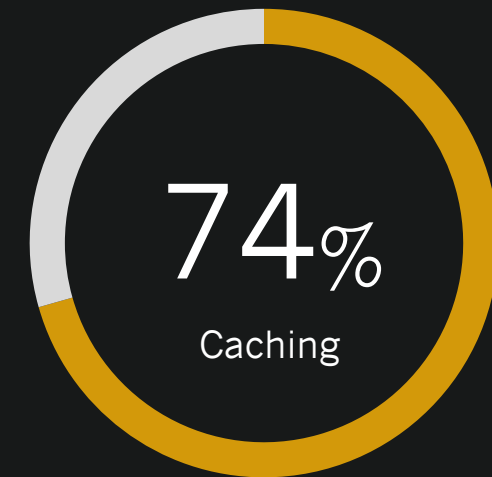
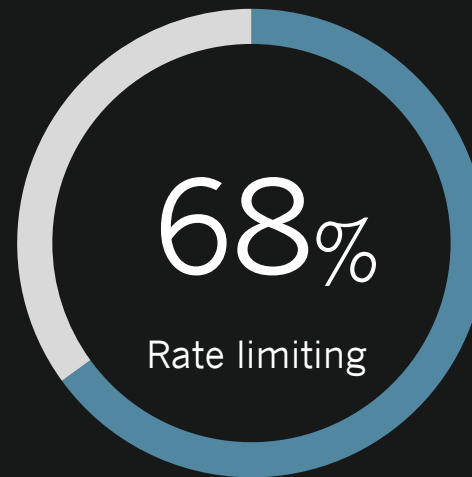
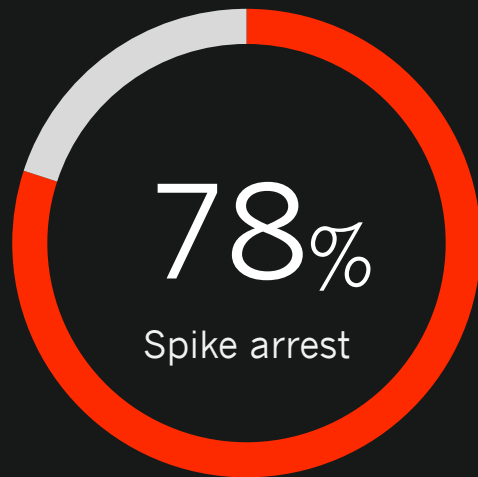




Enforce a consistent set of
security policies across all of
your APIs



Percentage of companies using capability in the API tier*

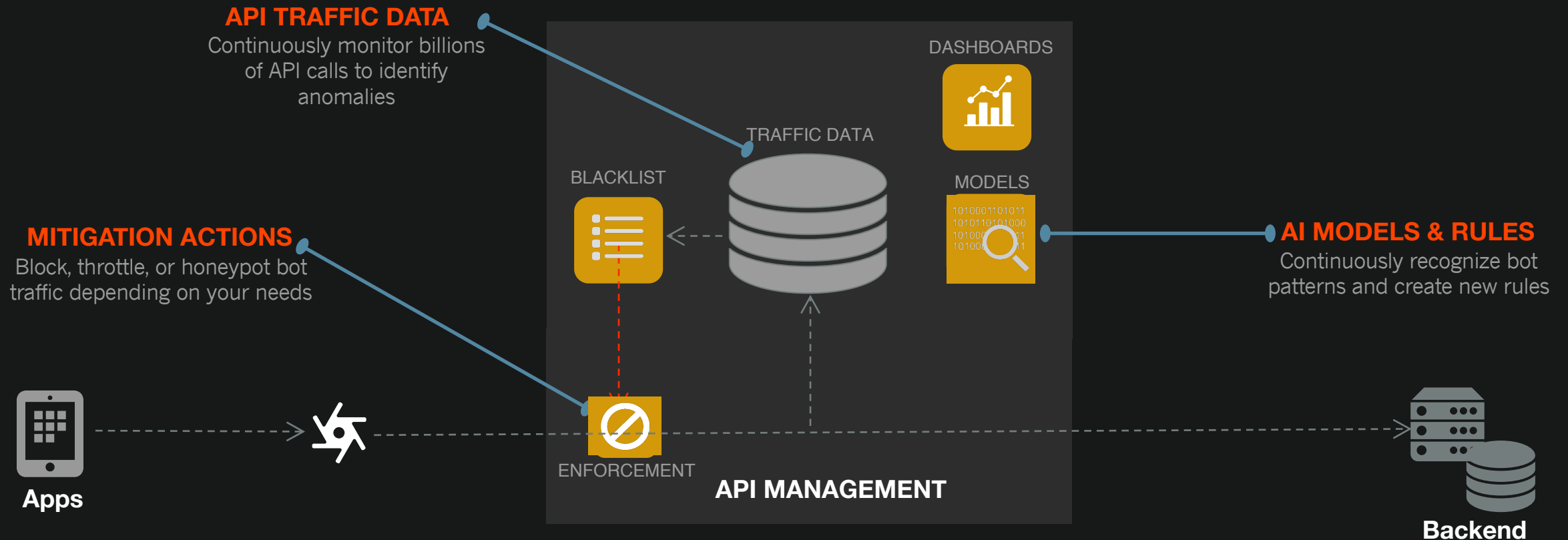


OUT-OF-THE-BOX TRAFFIC MANAGEMENT IN API PLATFORMS

Spike arrest
Concurrent rate limit
Quota

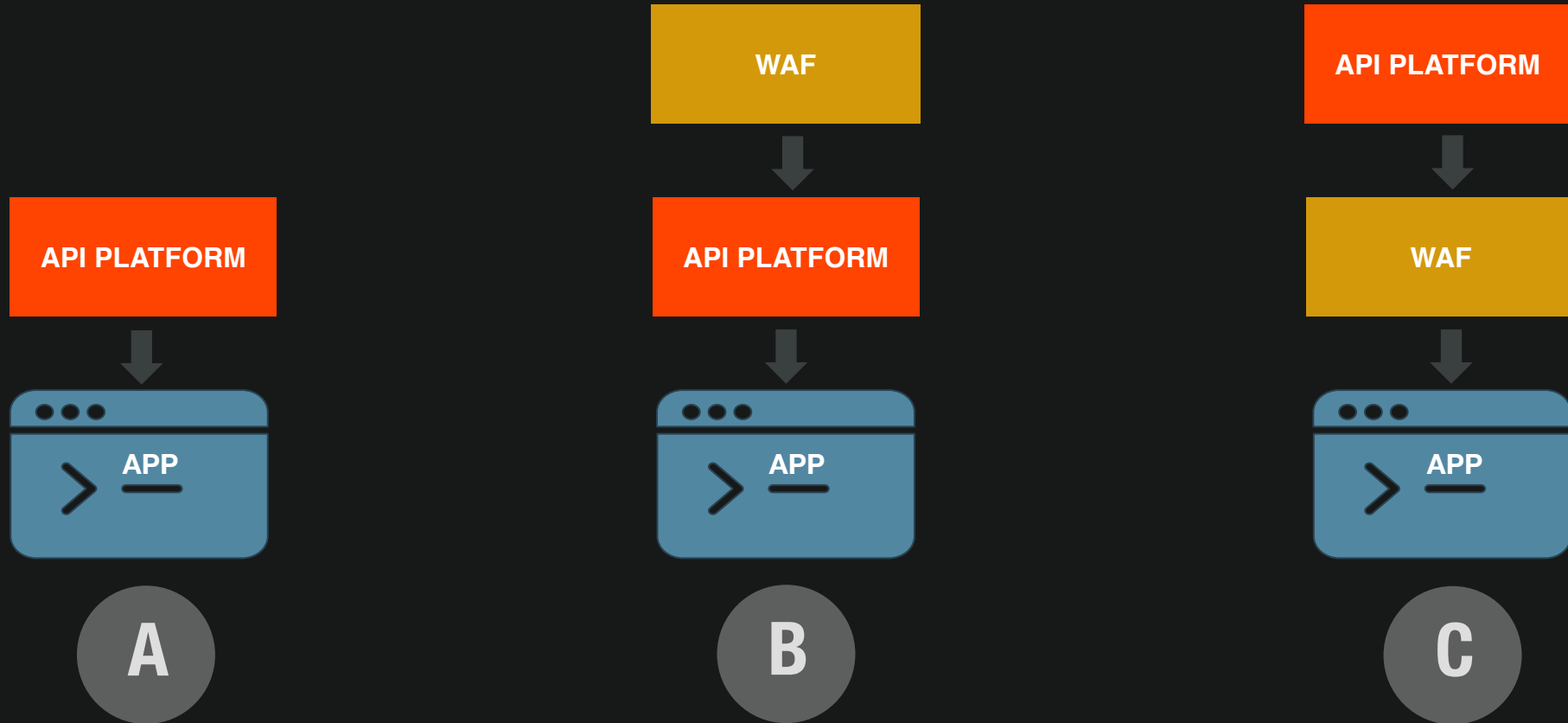
Response cache
Lookup cache

Populate cache
Invalidate cache
Reset quota



07 Don't just rely on WAFs for API security


WAF & API platform configurations



Advanced API platforms cover all API security needs. Eliminating WAF lowers latencies and provides consistent app security policies.

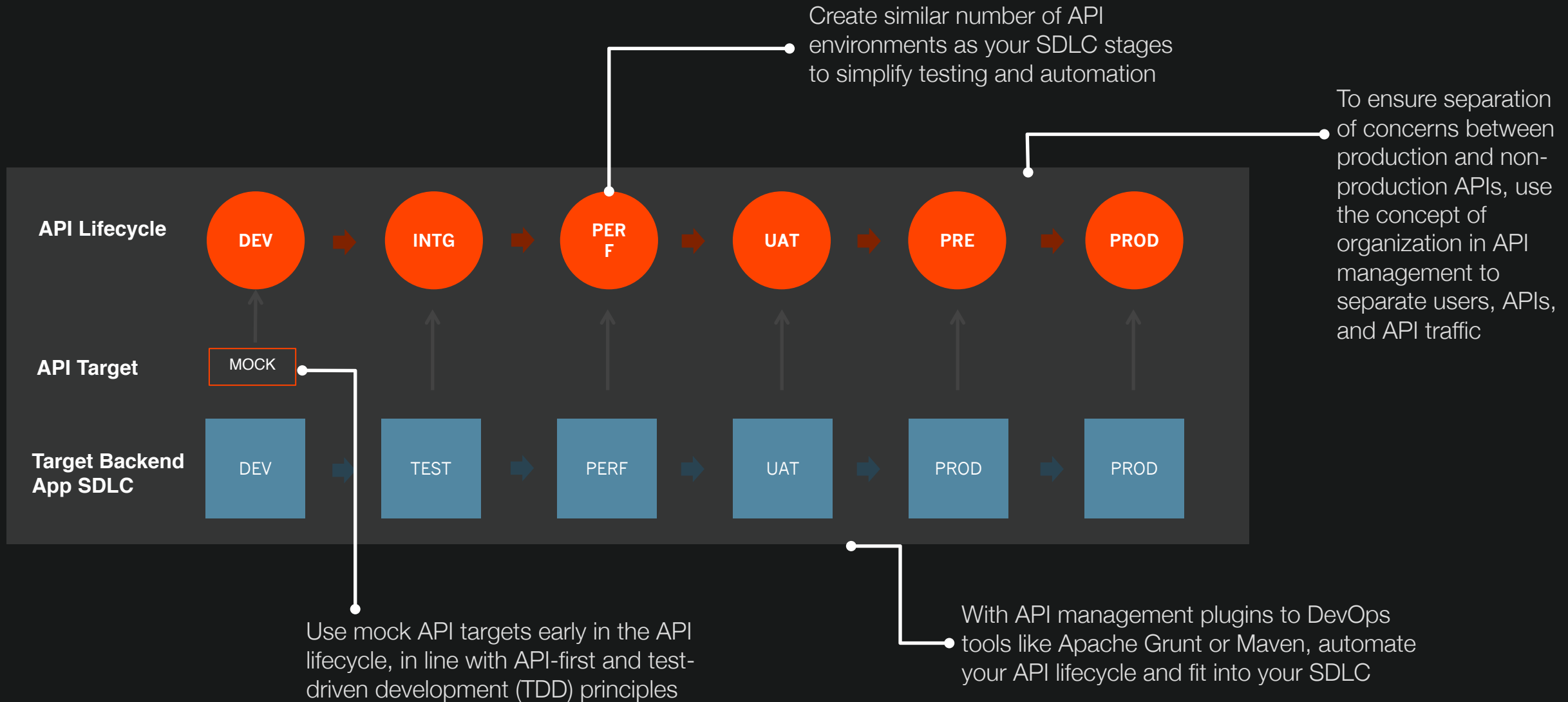
If your existing WAF is built into your CDN, this option might be the right approach (API platform sits behind the WAF/CDN).

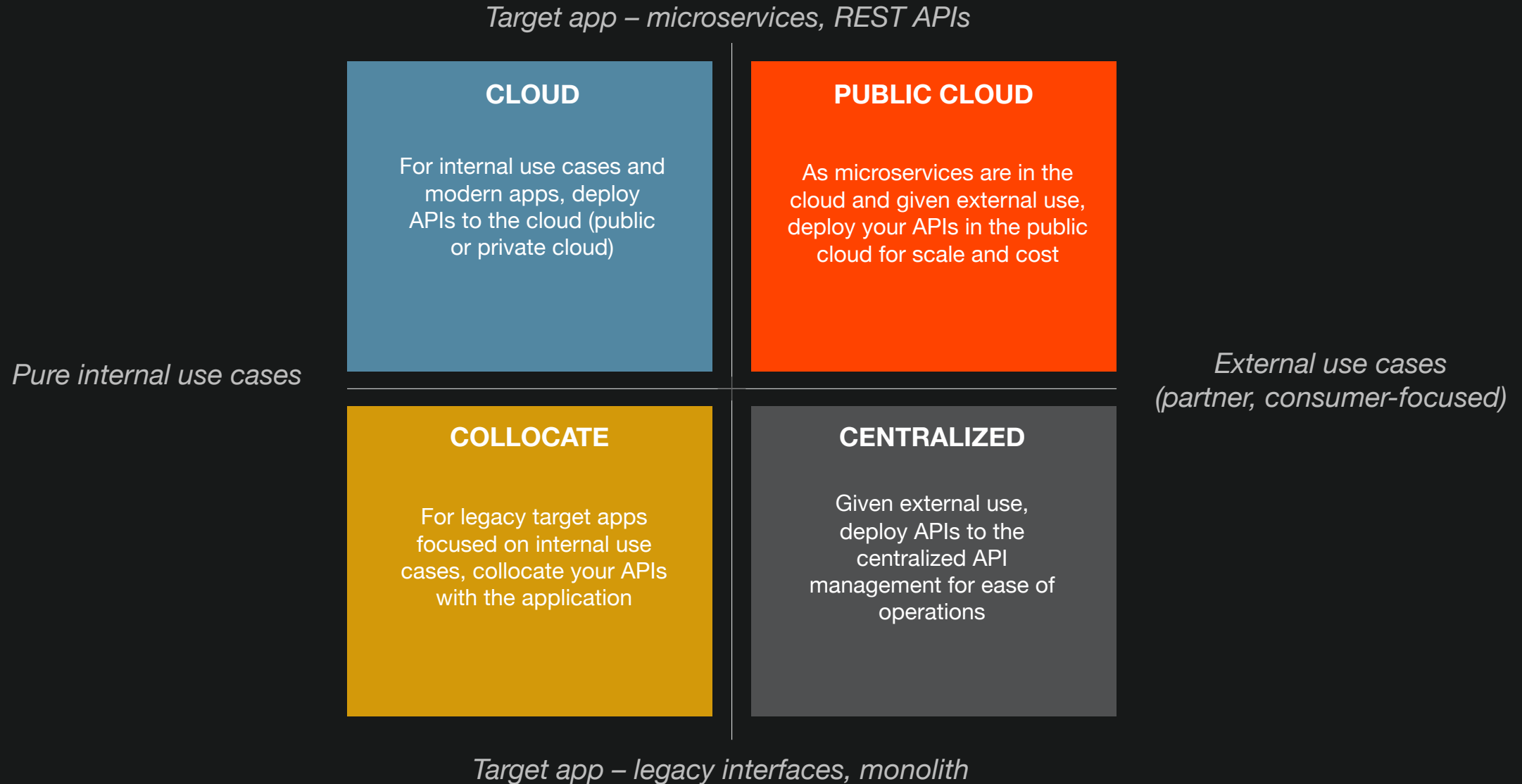
In situations where applications can only be accessed through a WAF gateway, this might be the right approach.

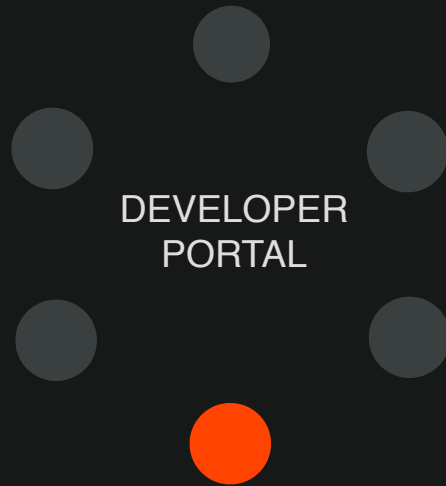


TESTING &
DEPLOYMENT

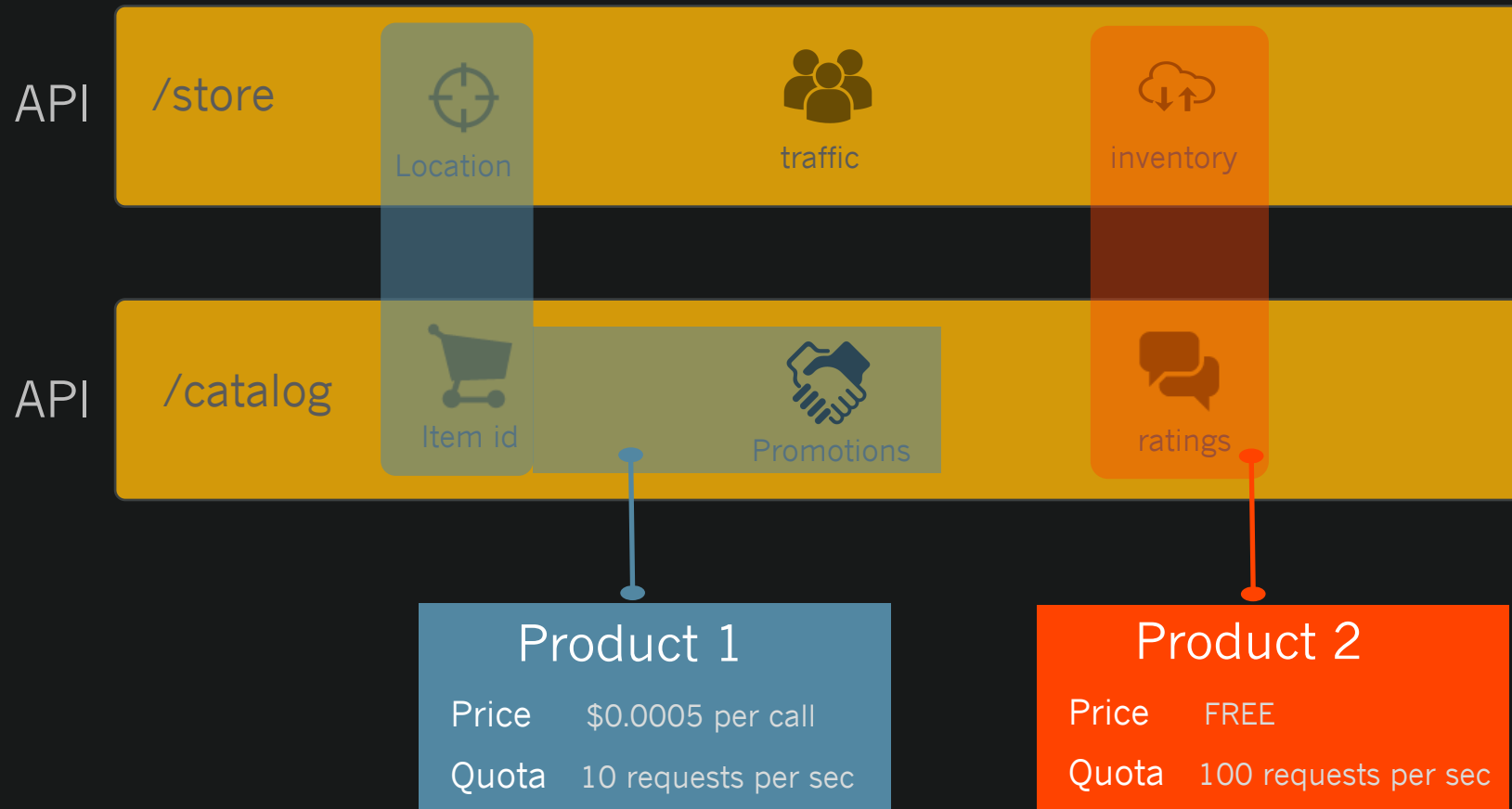
Sync API lifecycle with your
SDLC and automate testing
and deployment of APIs







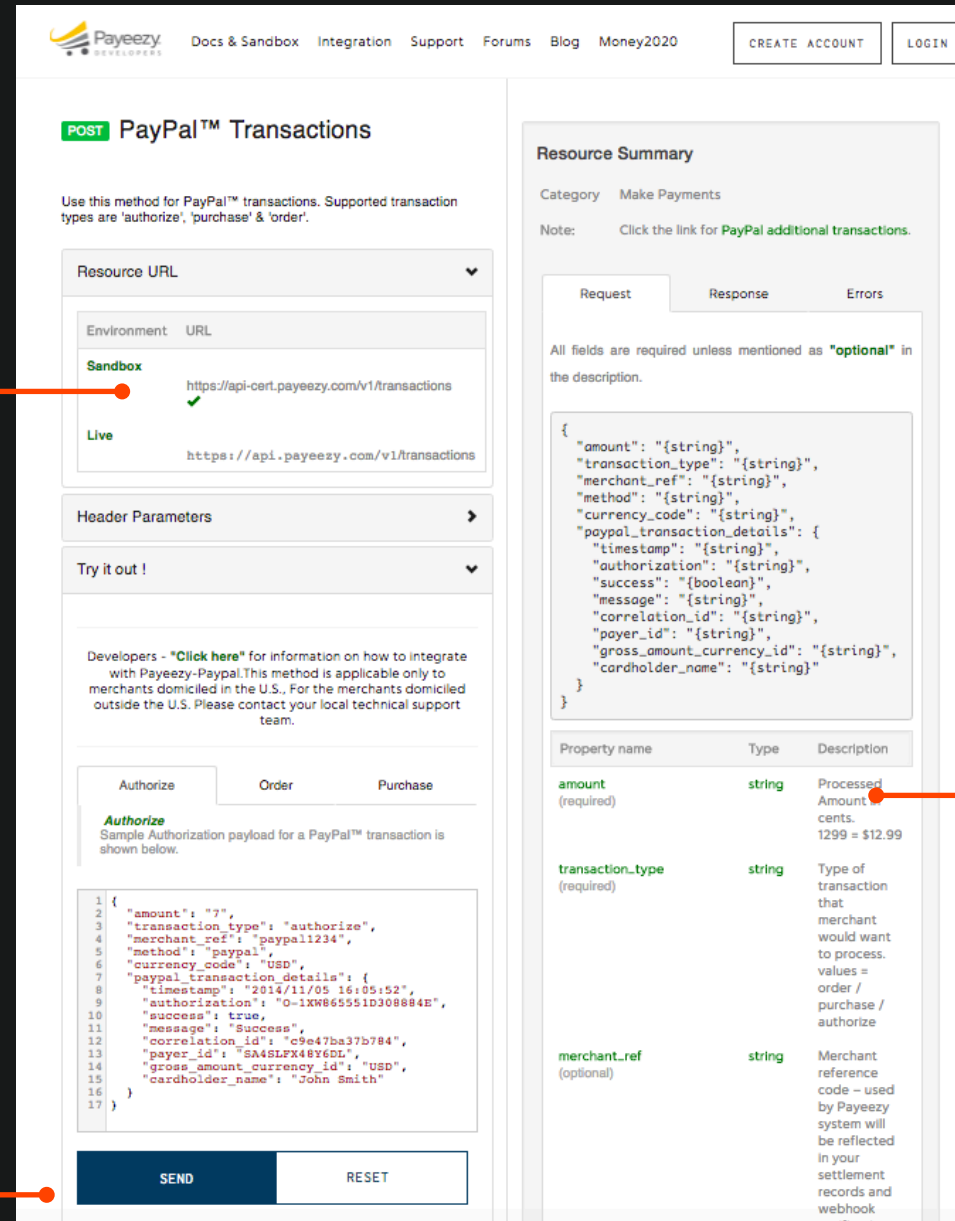
Publish easy-to-use APIs with
interactive documentation and
self-service capabilities



- ◆ Provide differentiated access to APIs and resources to various user groups
- ◆ Quickly try out new API-based business models (e.g., revenue share, API pricing)

Sandbox environment to test APIs

Interact with the API and see the request and response formats



POST PayPal™ Transactions

Use this method for PayPal™ transactions. Supported transaction types are 'authorize', 'purchase' & 'order'.

Resource URL

Environment	URL
Sandbox	https://api-cert.payeezy.com/v1/transactions
Live	https://api.payeezy.com/v1/transactions

Header Parameters

Try it out !

Developers - [Click here](#) for information on how to integrate with Payeezy-Paypal. This method is applicable only to merchants domiciled in the U.S. For the merchants domiciled outside the U.S. Please contact your local technical support team.

Authorize **Order** **Purchase**

Authorize
Sample Authorization payload for a PayPal™ transaction is shown below.

```

1 {
2   "amount": "7",
3   "transaction_type": "authorize",
4   "merchant_ref": "paypal1234",
5   "method": "paypal",
6   "currency_code": "USD",
7   "paypal_transaction_details": {
8     "timestamp": "2014/11/05 16:05:52",
9     "authorization": "O-1XW865551D308884E",
10    "success": true,
11    "message": "Success",
12    "correlation_id": "c9e47ba37b784",
13    "payer_id": "SA4SLFX48Y6DL",
14    "gross_amount_currency_id": "USD",
15    "cardholder_name": "John Smith"
16  }
17 }
  
```

SEND **RESET**

Resource Summary

Category: Make Payments

Note: Click the link for [PayPal additional transactions](#).

Request **Response** **Errors**

All fields are required unless mentioned as **"optional"** in the description.

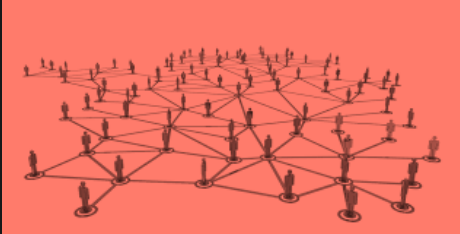
```

{
  "amount": "{string}",
  "transaction_type": "{string}",
  "merchant_ref": "{string}",
  "method": "{string}",
  "currency_code": "{string}",
  "paypal_transaction_details": {
    "timestamp": "{string}",
    "authorization": "{string}",
    "success": "{boolean}",
    "message": "{string}",
    "correlation_id": "{string}",
    "payer_id": "{string}",
    "gross_amount_currency_id": "{string}",
    "cardholder_name": "{string}"
  }
}
  
```

Property name	Type	Description
amount (required)	string	Processed Amount cents. 1299 = \$12.99
transaction_type (required)	string	Type of transaction that merchant would want to process. values = order / purchase / authorize
merchant_ref (optional)	string	Merchant reference code – used by Payeezy system will be reflected in your settlement records and webhook notifications

Create rich documentation directly from your Open API specifications

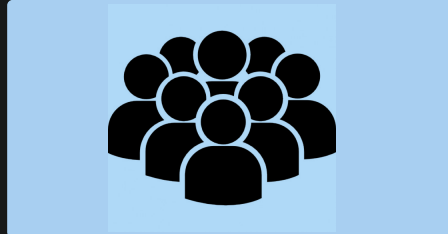
Broad adoption



To drive broader adoption of public APIs and for internal API usage, set up your developer portal with automated onboarding.

In this mode, developers sign up, register their app, get app keys, and get started, without any portal admin approvals.

Managed adoption



To engage strategic partners with a set of private APIs, you need to simplify partner developer onboarding, while retaining access control.

In this mode, app developers register on their own, but you have an admin approval step. Upon approval, the developer can register apps and get keys and access to docs.

Controlled access



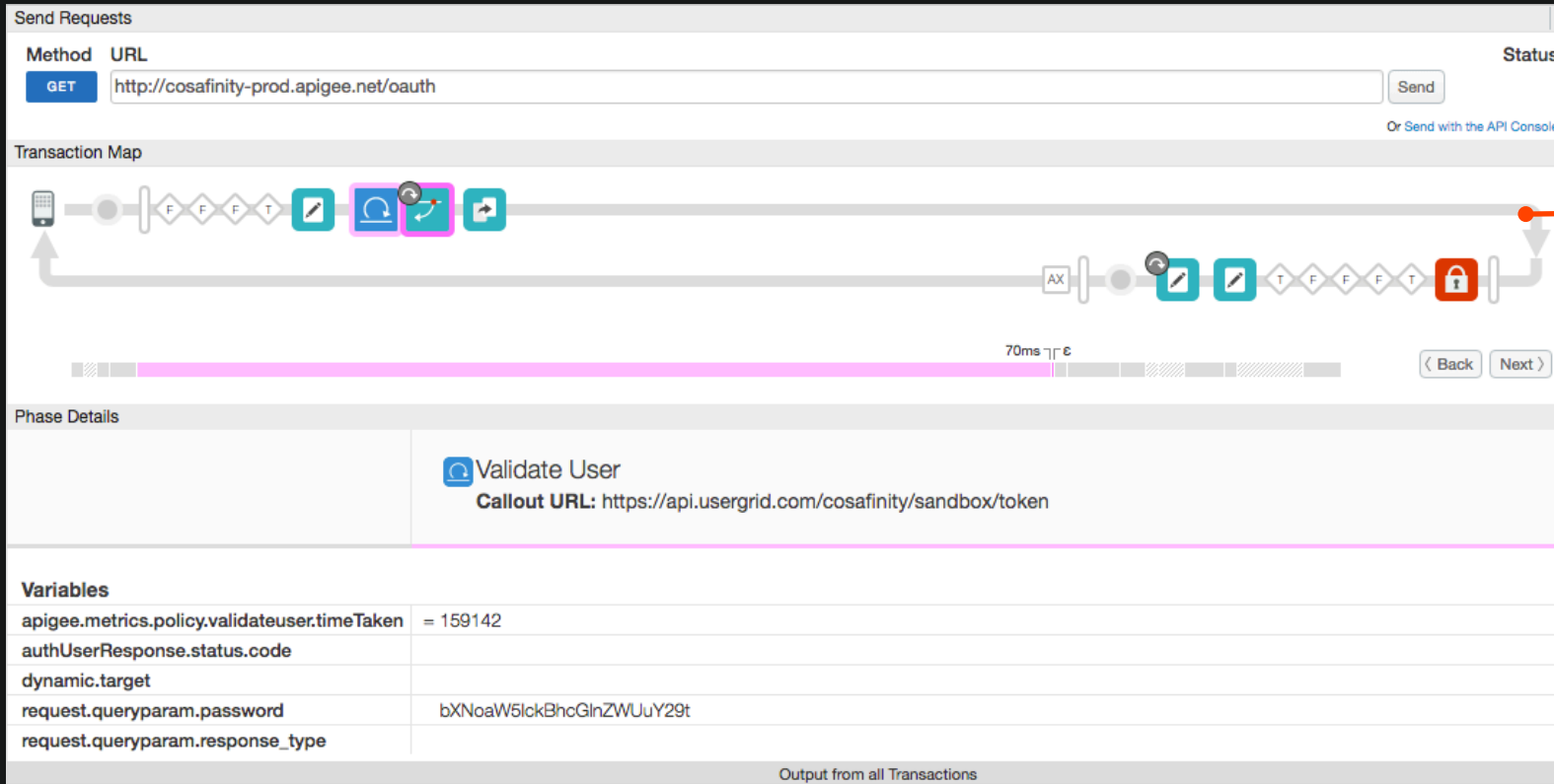
This is uncommon, but in certain, highly sensitive cases, organizations use this mode to restrict access to APIs.

In these use cases, the portal administrators sign up app developers. Although you have control, you lose scalability due to manual onboarding.



Use analytics to gain better insights into your API usage and performance

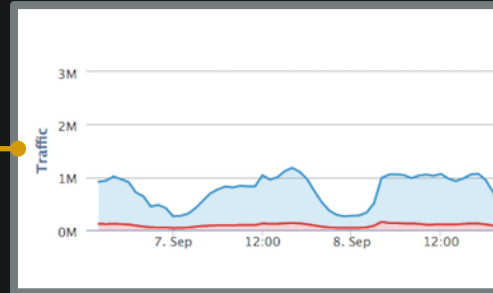
Enable API developers to optimize API functionality



Run step by step through an API request to get timing information for each stage as it flows through the API proxy

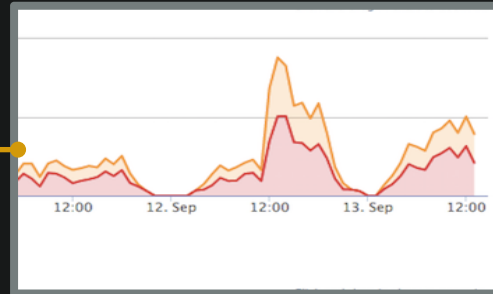


Operations admin



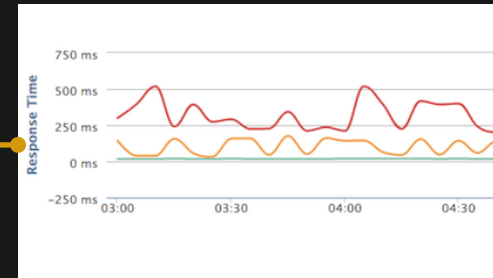
TRAFFIC

Operations teams need to monitor API traffic volumes, understand traffic patterns over time and identify anomalies



AVAILABILITY

Be the first to know if your API error rates increase beyond a particular threshold—and then rectify any issues

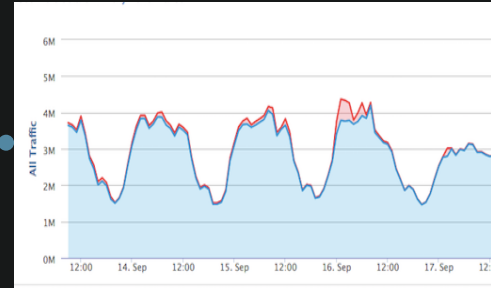


LATENCY

Ensure your APIs are meeting target response time SLAs that have been set with your API consumers

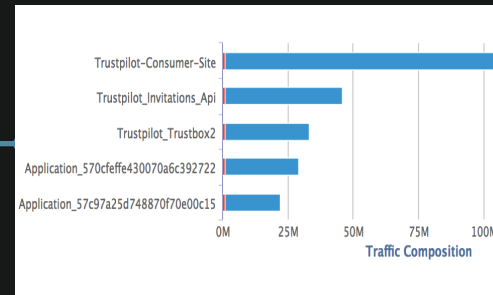


Product manager







USAGE

As an API product owner, always know the most popular APIs, API traffic volumes, and usage patterns



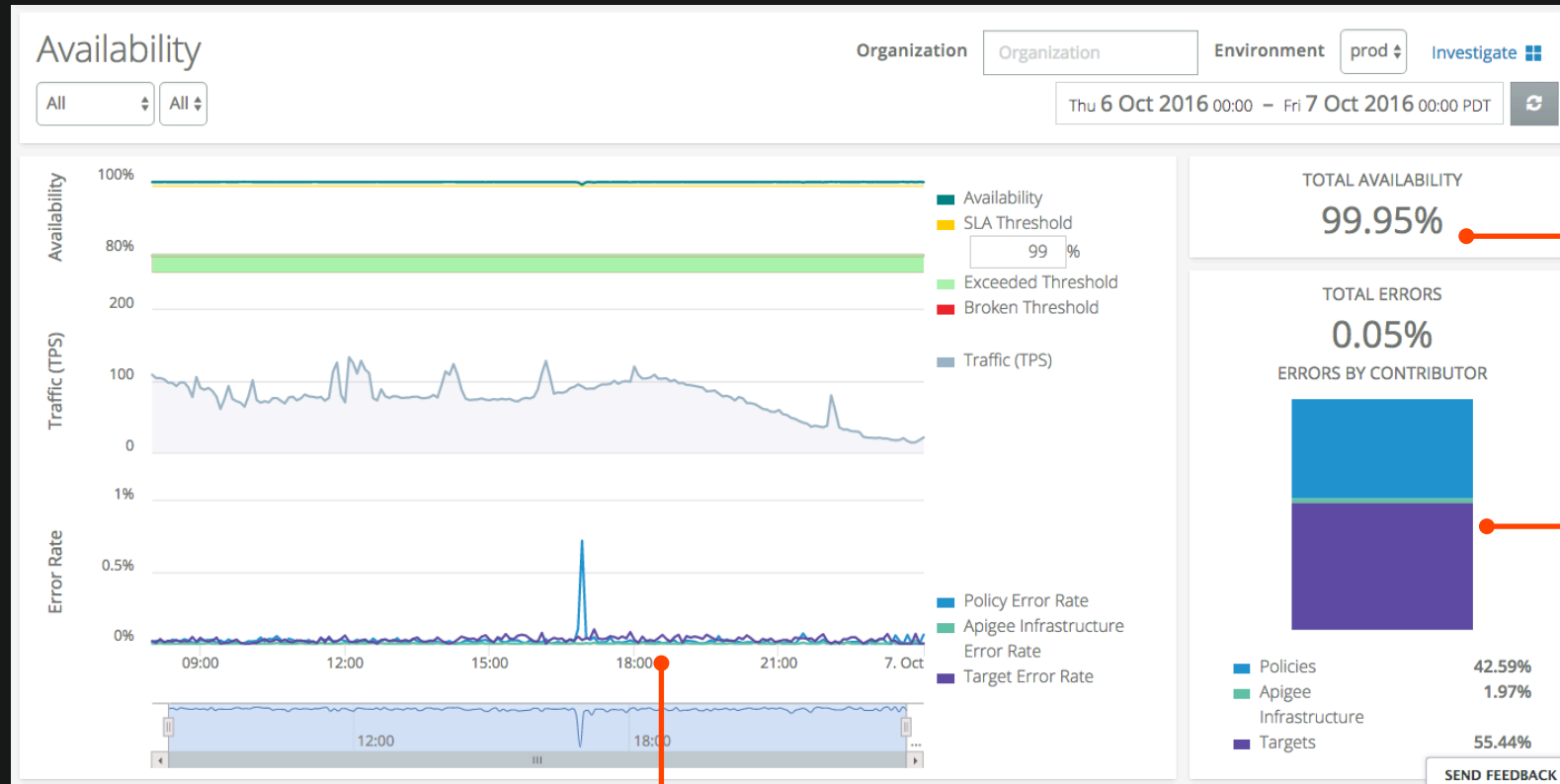
ADOPTION

Identify the most active developers and apps consuming your APIs, from traffic volume and breadth of APIs

Charge API users	
	Flat fees monthly, annual or one time
	Usage based fees per API call or volume tiers
Share revenue with API users	
	Get a % cut of revenue generated by API users
	Give a % cut of your revenue generated with API users

BUSINESS METRICS

Track business metrics associated with your APIs (API-related fees, revenue share etc.)



App developers have visibility into availability of APIs they're consuming

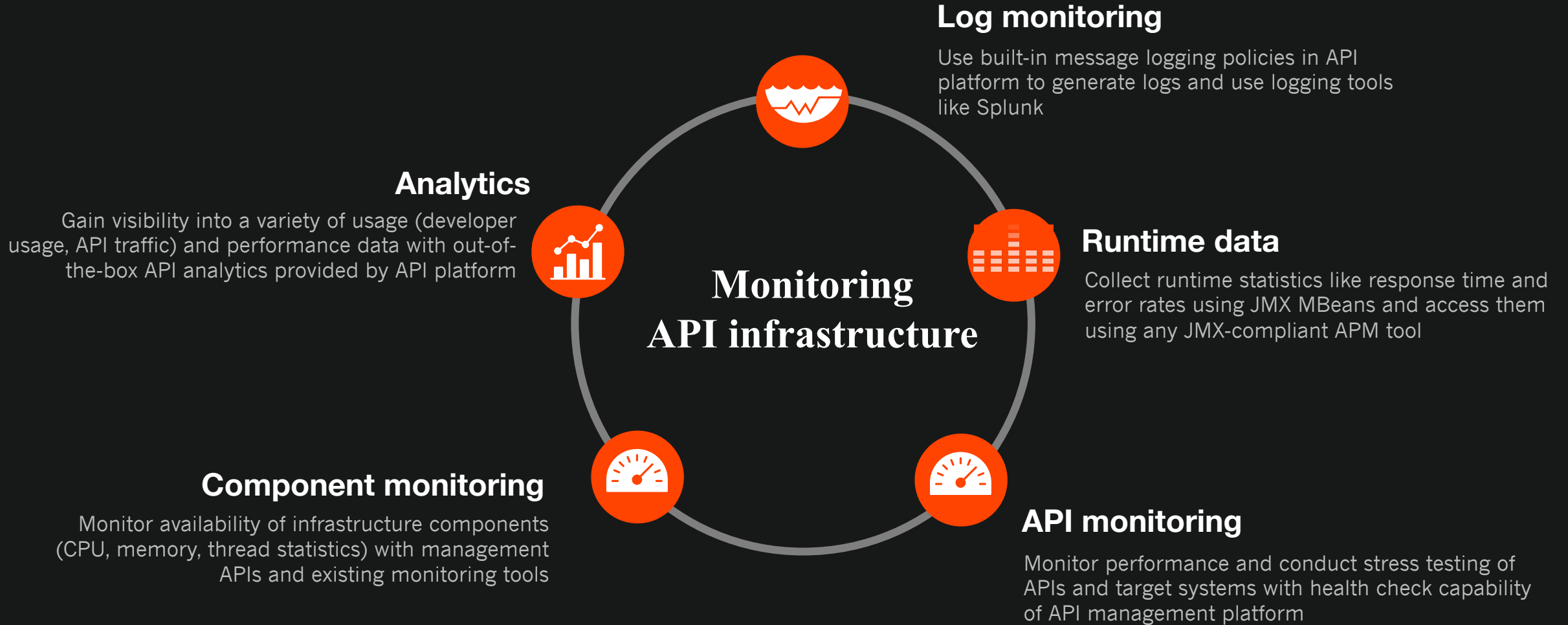
Identify if the errors are due to API policies, API infrastructure, or target backends

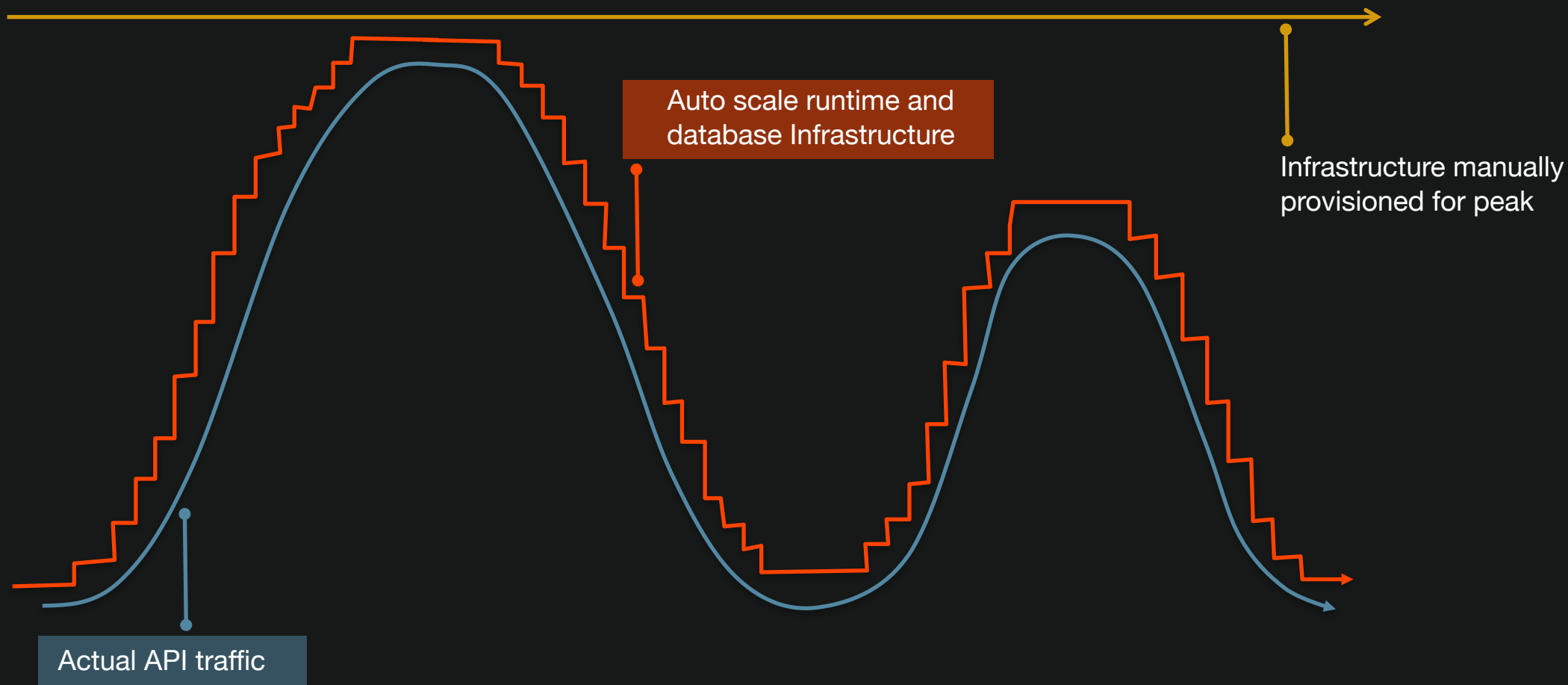
App developers can track the error rates of APIs they consume over time



Automate API operations by
integrating API management into
your enterprise infrastructure

	PUBLIC CLOUD	HYBRID	PRIVATE CLOUD	
Time to success	★★★	★★	★	With skilled people and infrastructure ready to go, private cloud is still a viable option
Total cost of ownership	★★★	★★	★★	For apples-to-apples comparison, use a three-year period and include all operations costs
Security / compliance	★★	★★★	★★★	Public cloud satisfies most customers' needs, except for specific situations
Performance	★★★	★★★	★★★	Public cloud satisfies most use cases (exception: purely internal use cases)
Scale / reliability	★★★	★★★	★★★	Leading API cloud providers can provide significant scale with auto scaling & reliability





SPEED MATTERS - API best practices are only one part



- ◆ Adopt modern software practices
Agile, scrum, test-driven development
- ◆ Execute First, Align Later
Focus on business impact with your initial API projects and address broader alignment after initial successes
- ◆ Fail-fast approach
Get the set of APIs out FAST—you never know if and how they will be consumed by developers

About Apigee

Apigee® powers the APIs that make every business a digital business. Apigee provides a leading API platform that helps companies—from disruptive start-ups to the Fortune 100—rapidly adapt to the business and technology requirements of the connected, digital world.

Many of the world's largest organizations select Apigee to enable their digital business, including over 30 percent of the Fortune 100, four of the top five Global 2000 retail companies, and five of the top 10 global telecommunications companies.

For more information, visit apigee.com.

About this report

As a leader in API management, Apigee is privileged to work with hundreds of customers to develop and manage a large number of APIs. By reflecting on our experiences and those of our customers and the industry at large, we have gained some insights into which API design innovations are bringing real benefits and becoming notable trends. This report aims to capture some of the best practices in API design that we have seen emerge in the past couple of years.

Data in this report are based on hundreds of billions of API calls made through the Apigee cloud and distributed across Apigee's global network of datacenters from customers spanning 20 industry sectors. None of these data are from companies that deploy our technology in their private cloud.

If you have questions regarding the report, please email info@apigee.com or tweet [@apigee](https://twitter.com/apigee).