



Edge Analytics Services

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Purpose: *Understand API usage, see long-term API usage trends, and segment audiences.*



Dashboards

Check API adoption rates

Developer Metrics

Evaluate performance of APIs used by apps; verify to conformance

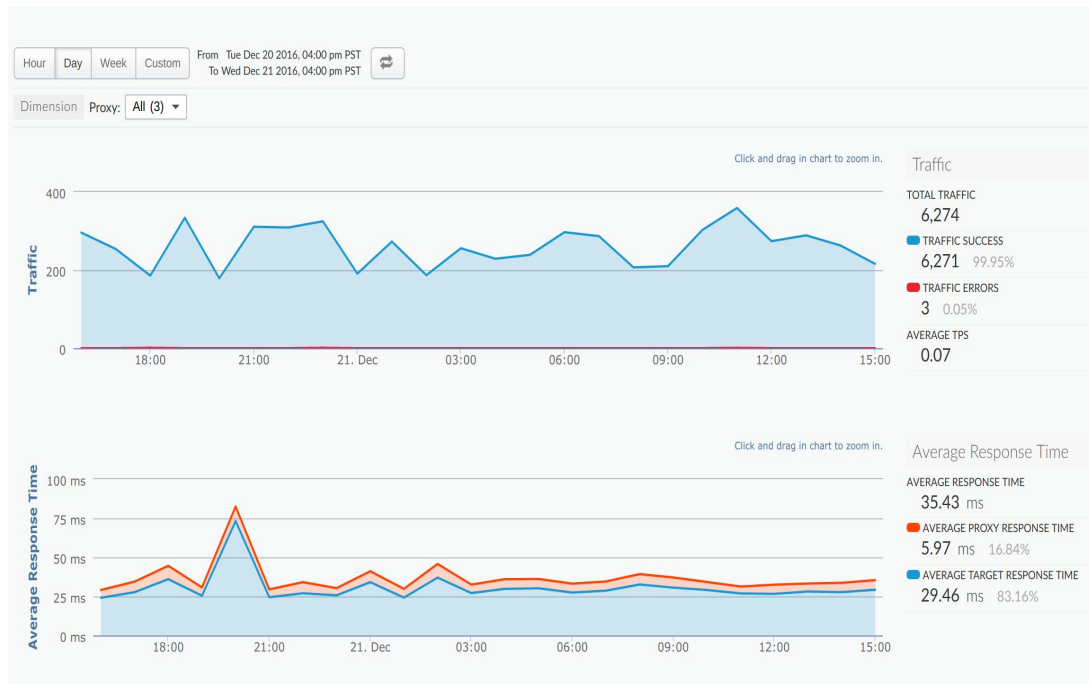
Custom Reports

Evaluate bottom-line impact and ROI

Monitoring

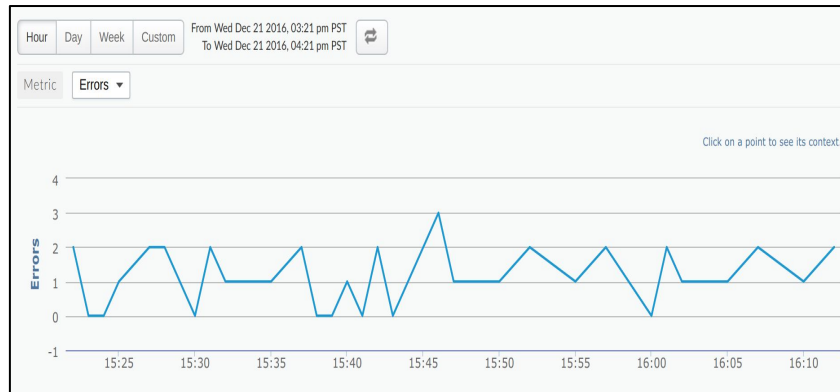
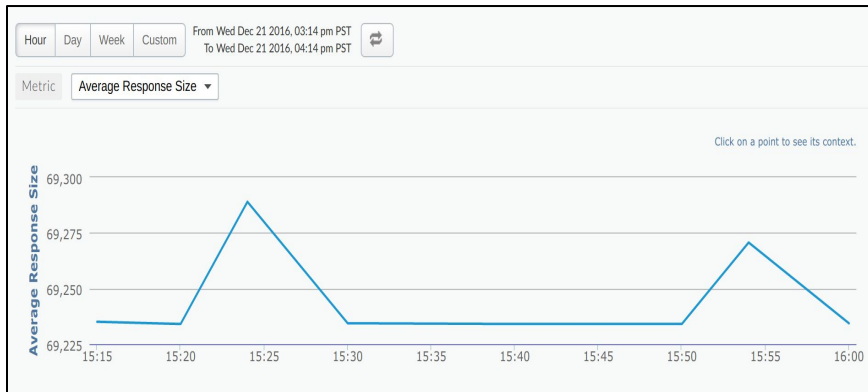
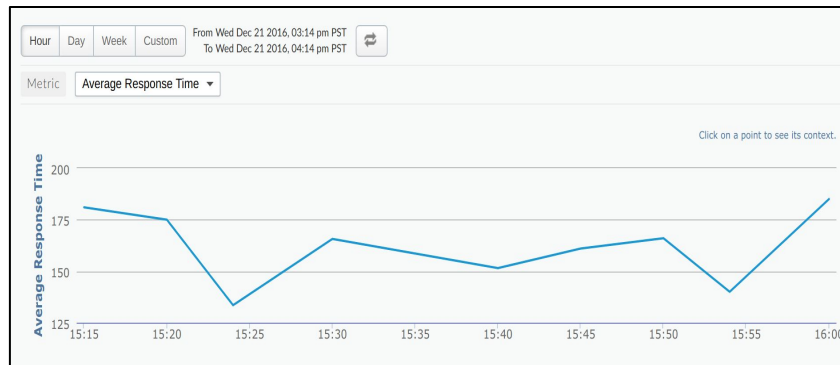
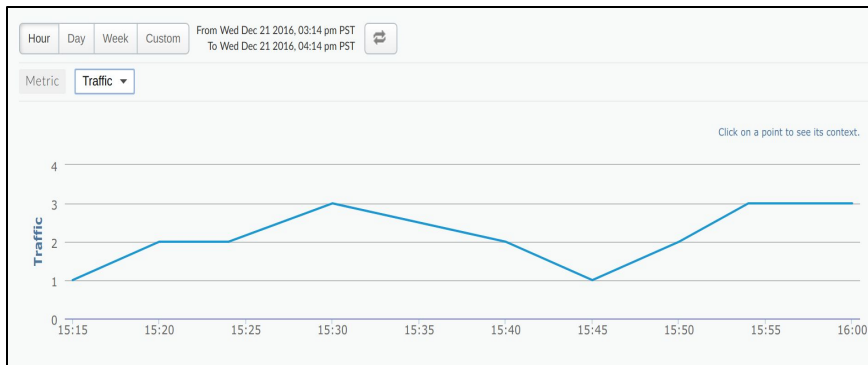
Verify SLA conformance; plan capacity expansion

Edge Analytics Services



- Serves as the repository for analytics data
- Dashboards give information about all APIs or only specific APIs, and support drill-down to allow deeper analysis
- Provides statistical graphs that can be customized to meet specific requirements
- Allows statistics to be extracted using APIs and imported into other systems for further analysis

Edge Analytics Services



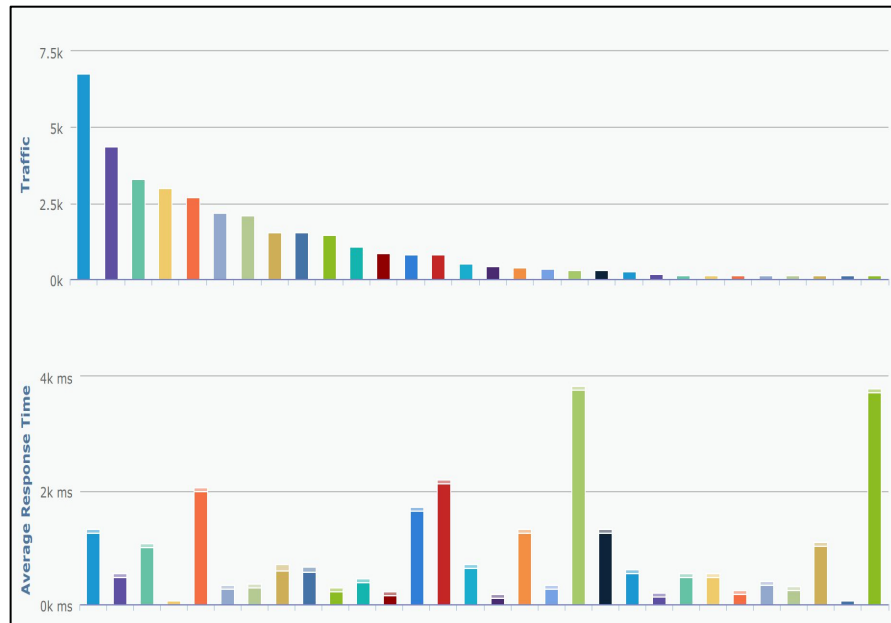
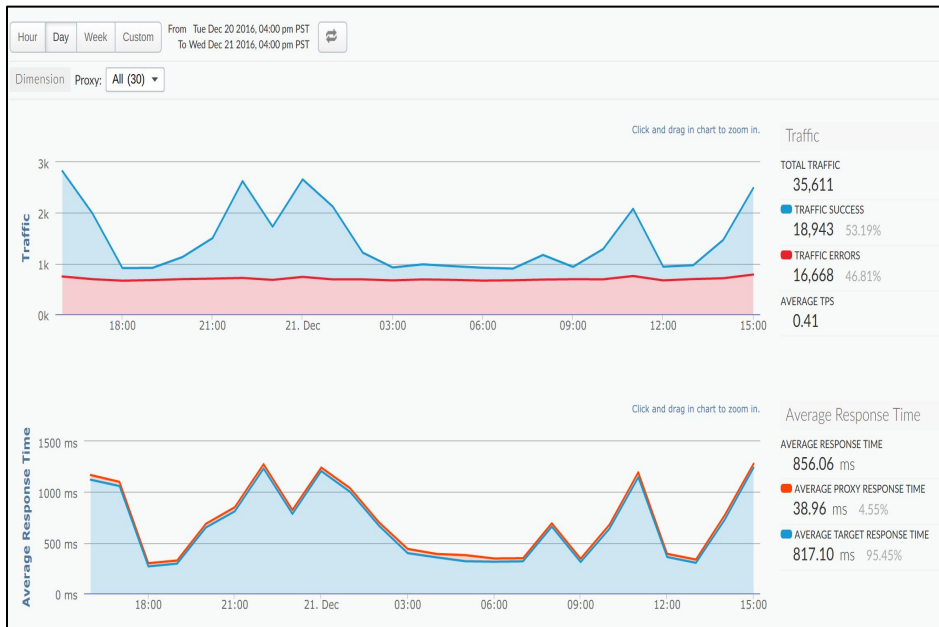
Edge Analytics Services

Analyze trends for your API program, inspect and diagnose problems, and generate reports.

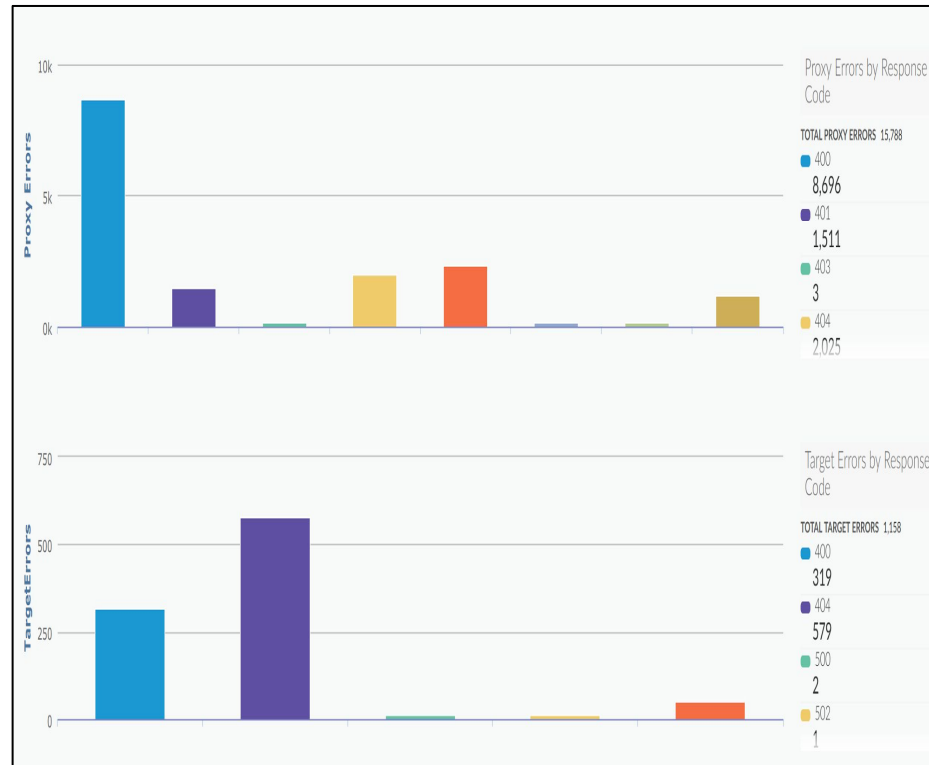
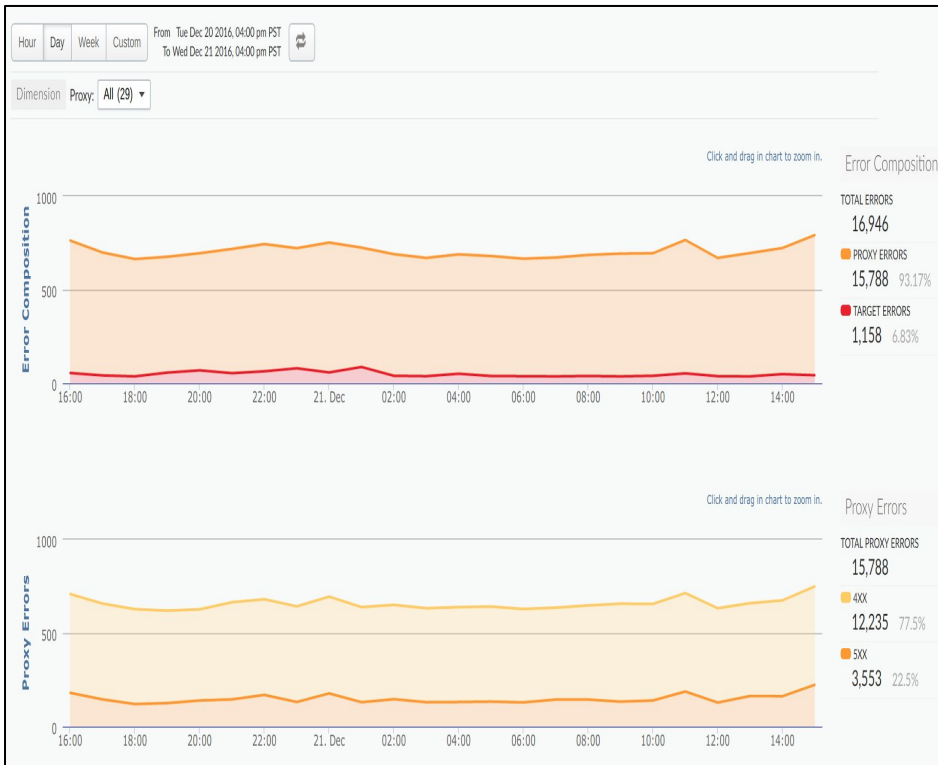
Out of the box reports include:

- **API Proxy Performance** - visualize how much traffic your APIs generate and how long it takes for API calls to be processed
- **Business Transactions** - helps you understand changes in API traffic that might be caused by specific business, marketing, or partner events
- **Cache Performance** - visualize the benefit of the cache in terms of lower latency and reduced load backend servers
- **Developer Engagement** - tells you which of your registered app developers are generating the most API traffic
- **Devices** - tells you about the devices and servers that are being used to access your APIs
- **Error Code Analysis** - tells you about error rates for API proxies and targets.
- **Geomap** - tracks traffic patterns, error patterns, and quality of service across geographical locations
- **Latency Analysis** - can alert you to any latency issues your API proxies may be experiencing
- **Target Performance** - helps you visualize traffic patterns and performance metrics for API proxy backend targets
- **Traffic Composition** - measures the relative contribution of your top APIs, apps, developers, and products to your overall API program
- **Custom Reports** - way to specify precisely what you want to measure across your API program

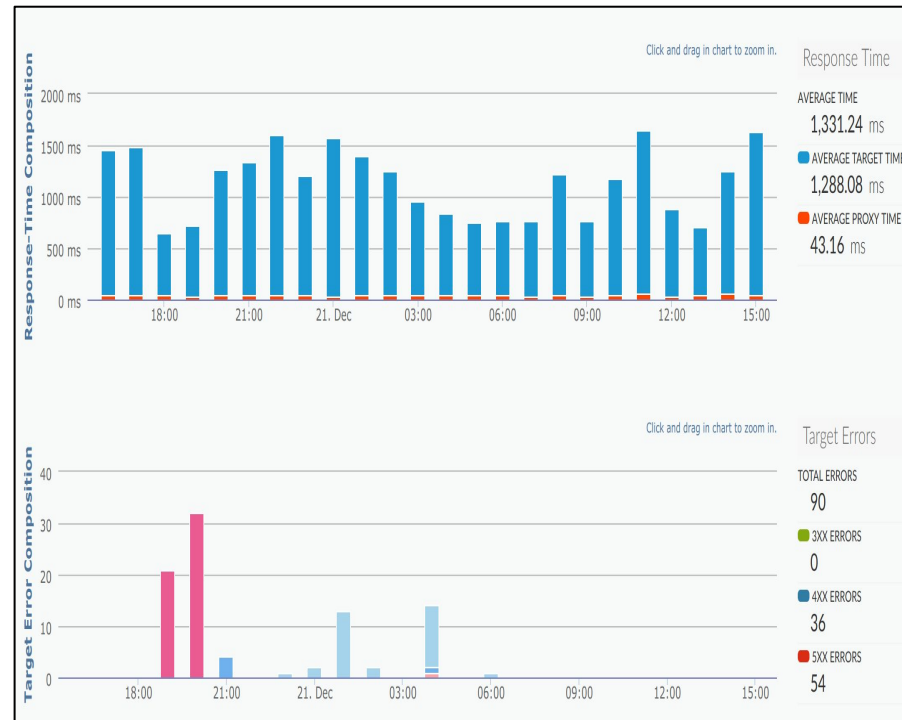
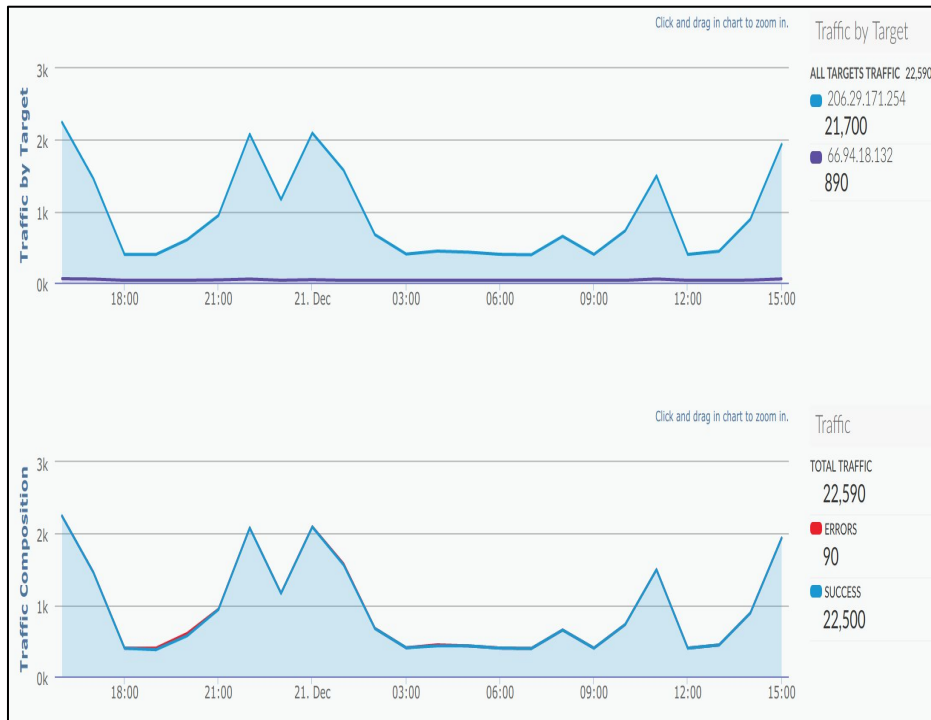
API Proxy Performance



Error Code Analysis



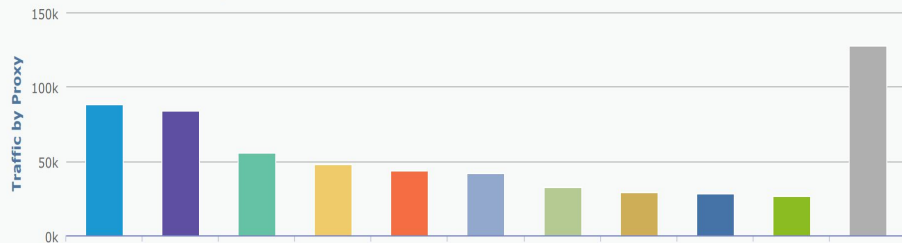
Target Performance



Traffic Composition

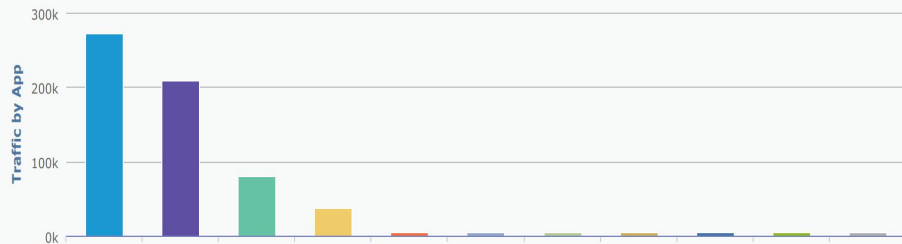
Top 10 Proxies Traffic

See more details for [Proxies Traffic Composition](#)



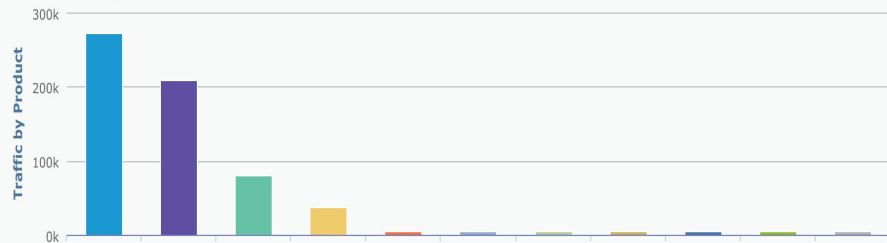
Top 10 Apps Traffic

See more details for [Apps Traffic Composition](#)



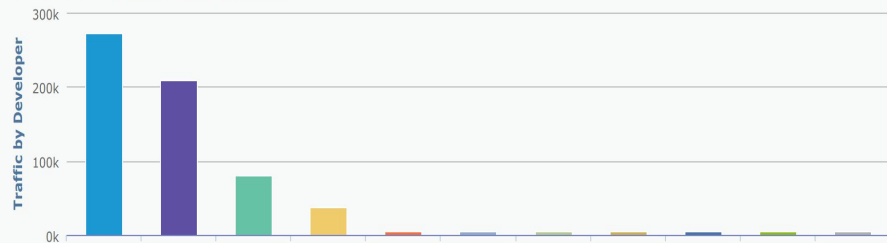
Top 10 Products Traffic

See more details for [Products Traffic Composition](#)



Top 10 Developers Traffic

See more details for [Developers Traffic Composition](#)



Custom Reports

Basics

Report Name

Report Description

Chart Type ☒ Column ☐ Line
For Column charts, the x-axis represents groups designated by dimensions. For Line charts, the x-axis represents time.

Metrics

The y-axis represents metric values.

Metric	Aggregate Function	Actions
1 <div><div>Select...</div><div><div>Select...</div><div>Average Transactions per Second</div><div>Cache Hit</div><div>L1 Cache Elements Count</div><div>Policy Errors</div><div>Proxy Errors</div><div>Request Processing Latency</div><div>Request Size</div><div>Response Cache Executed</div><div>Response Processing Latency</div><div>Response Size</div><div>Target Errors</div><div>Target Response Time</div><div>Total Response Time</div><div>Traffic</div></div></div>	<input type="radio"/> Sum <input type="radio"/> Average <input type="radio"/> Min <input type="radio"/> Max	<div>+ Metric</div>

Dimensions are similar to the GROUP BY clause in SQL. Dimensions are similar to the WHERE clause in SQL, working as a drill down, and the subsequent dimensions becomes the grouping mechanism.

1. In

2. O

Dimension	Actions
<div>+ Dimension</div>	

Filter

Basic

Advanced

Filter Conditions	Connector	Name	Operator	Value	Actions
					<div>+ Filter Condition</div>

Cancel

Save

A custom report is a way to specify precisely what you want to measure across your API program. For instance, you can measure all API traffic generated from a specific client IP address.

Custom reports provide both chart and table views

NOTE: After API calls are made to proxies, it takes about **12 minutes** for the data to appear in dashboards, custom reports, and management API calls.

Custom Reports

	Measure	Aggregate Function	Actions
1	Policy Errors	<input checked="" type="radio"/> Sum <input type="radio"/> Average <input type="radio"/> Min <input type="radio"/> Max	<input type="button" value="X Delete"/>
2	Target Errors	<input checked="" type="radio"/> Sum <input type="radio"/> Average <input type="radio"/> Min <input type="radio"/> Max	<input type="button" value="X Delete"/>
3	Proxy Errors	<input checked="" type="radio"/> Sum <input type="radio"/> Average <input type="radio"/> Min <input type="radio"/> Max	<input type="button" value="X Delete"/>
<input type="button" value="+ Measure"/>			

- ✓ Select...
- Access Token

API Product

API Proxy

API Proxy Revision

catalog

catalogid

category

categoryid

Client Host

Client ID

Client IP Address

Developer

Developer App

Developer Email

email

Environment

Flow Resource

Gateway Flow ID

Organization

product

productid

productname

Proxy

Proxy Base Path

Proxy Client IP

Proxy Path Suffix

Request Path

Request URI

Request Verb

Response Status Code

state

subcategory

subcategoryid

Target

Target Base Path

Target Host

Target IP Address

Target Response Code

Target URL

User Agent

userid

username

Virtual Host

X Forwarded For

Drilldowns

Drilldowns have two purposes:

1. Initially, the drilldown is used to group data, similar to the GROUP BY clause in SQL.
2. Once a drilldown is selected, it becomes a filter, similar to the WHERE clause in SQL, and the subsequent drilldown becomes the grouping mechanism.

	Drilldown	Actions
1	Select...	<input type="button" value="X Delete"/>
<input type="button" value="+ Drilldown"/>		

Filter

Basic Advanced

Filter Conditions	Connector	Name	Operator	Value	Actions
		API Proxy	Contained In		<input checked="" type="checkbox"/> <input type="button" value="-"/>

Custom Reports

3	Proxy Errors	<input checked="" type="radio"/> Sum <input type="radio"/> Average <input type="radio"/> Min <input type="radio"/> Max	<input type="button" value="Delete"/>
<input type="button" value="+ Measure"/>			

Drilldowns

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Drilldown	Actions
1 Select...	<input type="button" value="Delete"/>
<input type="button" value="+ Drilldown"/>	

Filter

Basic Advanced	
Filter Conditions	
Connector	Name
	Cache Hit
	Operator
	Contained In
	Value
	Actions
	<input checked="" type="checkbox"/> <input type="checkbox"/>
<input type="button" value="+ Filter Condition"/>	
<input type="button" value="Cancel"/> <input type="button" value="Save"/>	

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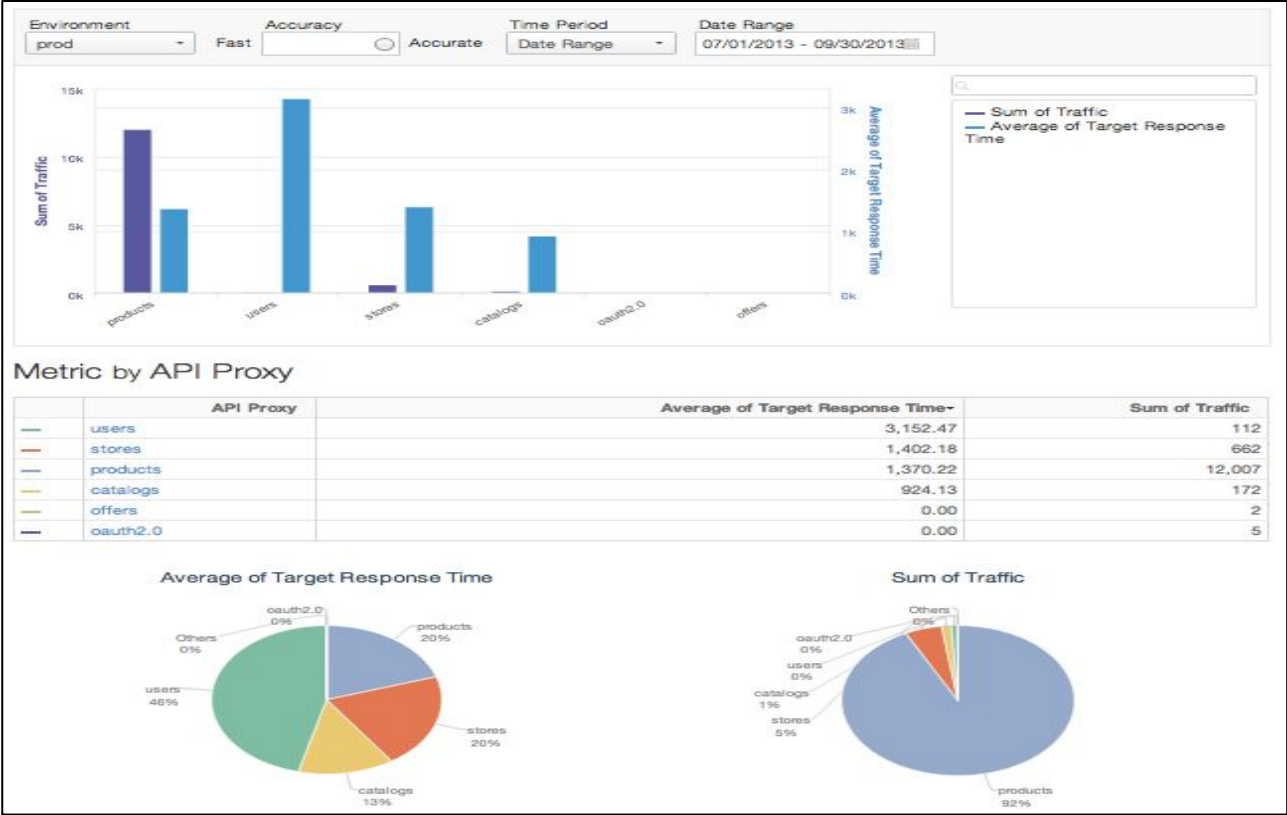
Measures

- Cache Hit
- Policy Errors
- Proxy Errors
- Request Processing Latency
- Request Size
- Response Processing Latency
- Response Size
- Target Errors
- Target Response Time
- Total Response Time
- Traffic

Dimensions

- Access Token
- API Product
- API Proxy
- API Proxy Revision
- catalog
- catalogid
- category
- categoryid
- Client Host
- Client ID
- Client IP Address
- Developer
- Developer App
- Developer Email
- email
- Environment
- Flow Resource
- Gateway Flow ID
- Organization
- product
- productid
- productname
- Proxy
- Proxy Base Path
- Proxy Client IP
- Proxy Path Suffix
- Request Path
- Request URI
- Request Verb
- Response Status Code
- state
- subcategory
- subcategoryid
- Target
- Target Base Path
- Target Host
- Target IP Address
- Target Response Code
- Target URL
- User Agent
- userid
- username
- Virtual Host
- X Forwarded For

Custom Reports



Custom Statistics Collector Policy

1 Analyze HTTP Transaction and Define Collectors

Extract Data from HTTP Transaction		Save in Collector Variable		
Location Type	Location Source	Name	Data Type	Action
1 Request: JSON Body	JSON Path \$.title_id	titleid	String	

+ Collector

2 Select Flow

Proxy Endpoint default, Flow PostFlow

Solution Results

Segment	Policies
Request	Extract Statistics Request, Collect Statistics Request

New collector variables are available in the Report editor as drilldown dimensions after this API proxy has been saved and deployed.

Cancel

Build Solution

Edge allows developers to send any custom data in its out-of-box Analytics engine. This is available through a policy, and even a wizard to set up for you.

Custom Statistics Collector Policy

- Policies are auto-generated by the wizard
- Can be manually customized to extract any part of the HTTP message for used in the StatisticsCollector policy

```
1 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
2 <ExtractVariables async="false" continueOnError="true" enabled="true" name="__extract-statistics-request__">
3   <!-- Created by the Custom Analytics Collection tool on: Thu Aug 07 2014 10:17:10 GMT-0700 (PDT) -->
4   <DisplayName>Extract Statistics Request</DisplayName>
5   <JSONPayload>
6     <Variable name="__jsonPayload" type="string">
7       <JSONPath>$.title_id</JSONPath>
8     </Variable>
9   </JSONPayload>
10 </ExtractVariables>
```



```
1 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
2 <StatisticsCollector async="false" continueOnError="false" enabled="true" name="__collect-statistics-request__">
3   <!-- Created by the Custom Analytics Collection tool on: Thu Aug 07 2014 10:17:10 GMT-0700 (PDT) -->
4   <DisplayName>Collect Statistics Request</DisplayName>
5   <Statistics>
6     <Statistic name="titleid" ref="__jsonPayload" type="String"></Statistic>
7   </Statistics>
8 </StatisticsCollector>
```

Custom Analytics Data

The screenshot displays the Apigee console interface for configuring a custom analytics collector. The main workspace shows a flow diagram with a 'REQUEST' arrow pointing right and a 'RESPONSE' arrow pointing left. A 'Statistics Collector' icon (a green square with a white line graph) is positioned on the right side of the flow. Below the flow diagram, the XML configuration for the 'Statistics Collector-1' is visible. The XML defines a statistics collector with a display name, properties, and a list of statistics. One statistic is named 'catalogName' and is of type 'string', with a reference to 'myCatalog.name'.

Flow: PreFlow

Property Inspector PreFlow

PreFlow	
name	PreFlow
Request	
Response	
Step	
Name	Statistics-Collector-1

Endpoint default Policy Statistics Collector-1

```
1 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
2 <StatisticsCollector async="false" continueOnError="false" enabled="true" name="
3   <DisplayName>Statistics Collector-1</DisplayName>
4   <Properties/>
5   <Statistics>
6     <Statistic name="catalog" ref="myCatalog.id" type="string"/>
7     <Statistic name="catalogName" type="string" ref="myCatalog.name"/>
8   </Statistics>
9 </StatisticsCollector>
```

- Add custom analytics data during API execution, then report on it using custom reports
- Custom analytics data can come from any portion of the inbound request or outbound response

Analytics API

- Edge Analytics Services exposes a RESTful API.
- Can be used to automate certain Analytics functions, such as retrieving metrics periodically using an automation client or script.
- Can also be used to build your own visualizations in the form of custom widgets that you can embed in portals or custom apps.

The base URL that you invoke to retrieve statistics for dimensions is the following:

```
https://api.enterprise.apigee.com/v1/o/{org_name}/e/{env_name}/stats
```

The following dimensions are supported :

- `/apis`
- `/apiproducts`
- `/apps`
- `/devs`

For more info on the API, refer the following links:

<https://docs.apigee.com/api/stats>

https://docs.apigee.com/management/apis/get/organizations/%7Borg_name%7D/stats

<https://docs.apigee.com/analytics-services/reference/analytics-command-reference>



Thank You