Edge Management

Analytics

Google Cloud

Agenda

- Overview
- Analytics data flow
- Analytics reports
- Analytics groups

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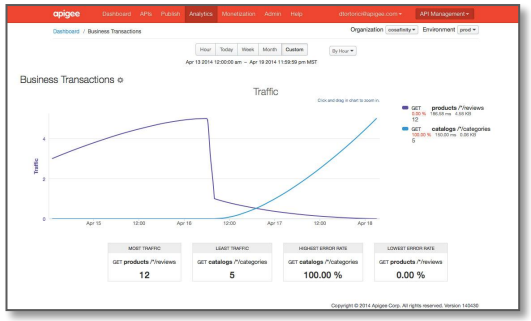
Overview

Edge Analytics Services enables end-to-end visibility across the digital value chain with unified operational, developer, app, and business metrics required to monitor, measure, and manage your API program.

Analytics Services offers user-tailored dashboards and reports that use custom variables, dimensions, drill-downs, metric correlations, and filters.

Operational Metrics



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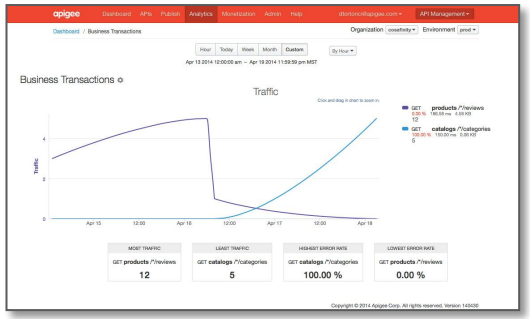
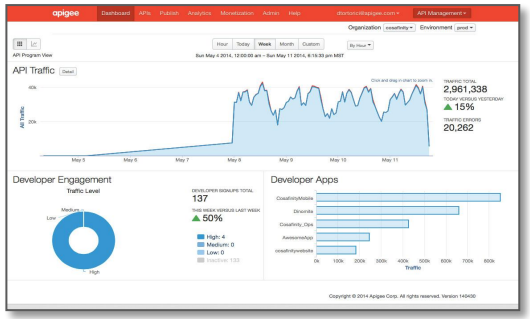


Developer Metrics



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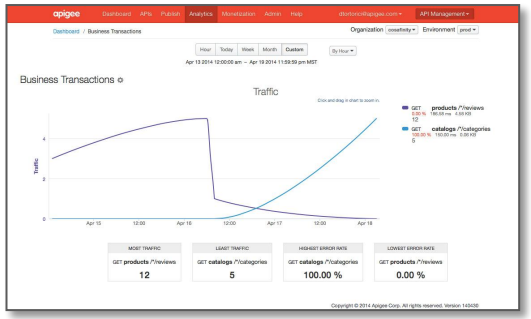
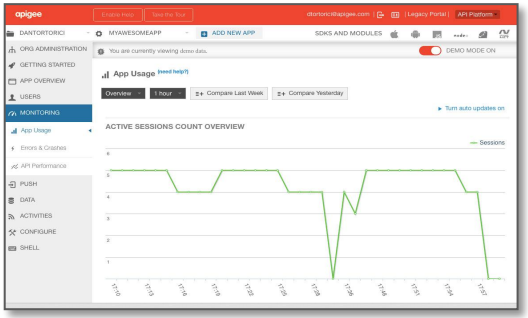
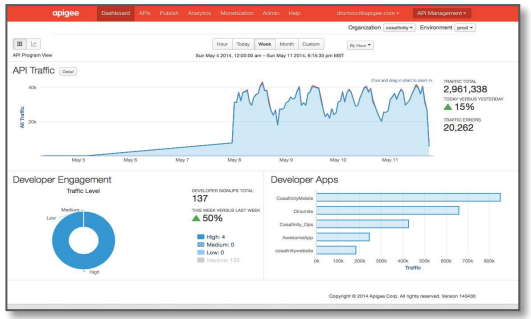




App Performance Monitoring

Developer Metrics



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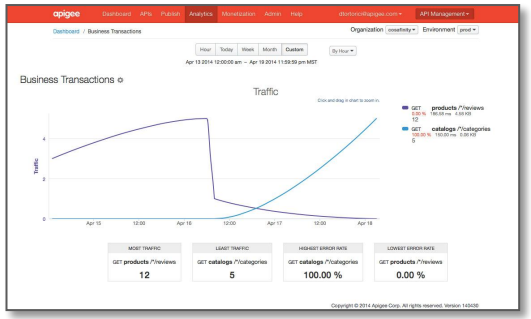
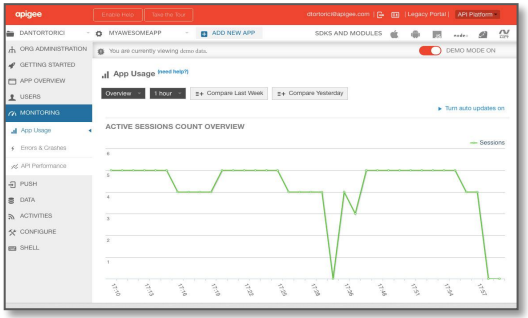
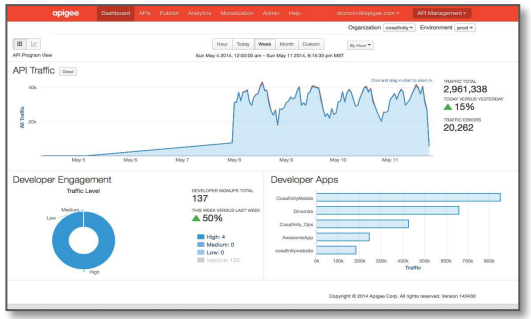




App Performance Monitoring

Developer Metrics



Business Metrics

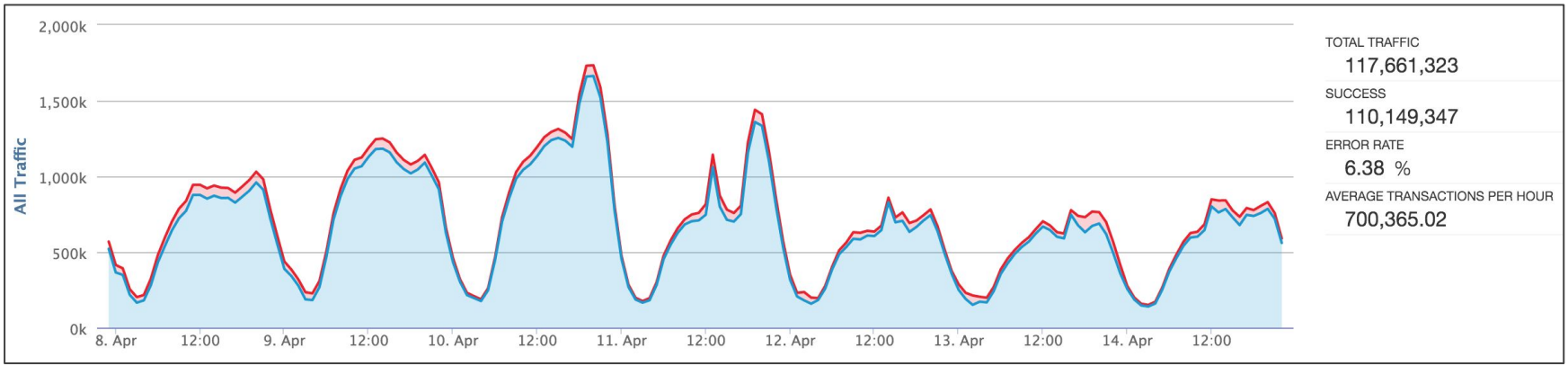
Analytics reporting

Analytics reporting explained

http://docs.apigee.com/analytics-services/content/analytics-dashboards

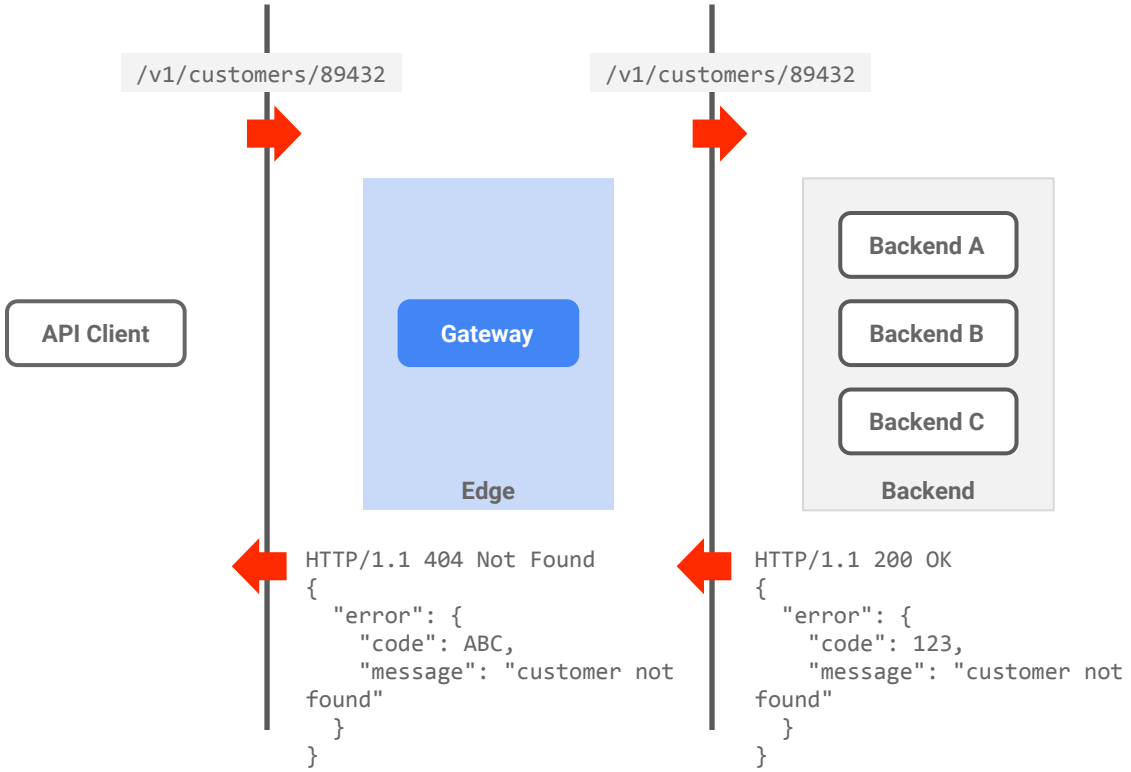
Analytics API

http://docs.apigee.com/analytics-services/content/use-analytics-api-measure-api-program-performance



API specification and backend errors

- When looking at Edge analytics reports, remember there are two sides represented on it. Proxy view and target view.
- Representation of error in backend systems may not match the API specification implemented by your proxies running on Edge.
- It is relevant for operations to be aware of API specification error mapping.
- The same differentiation must be made between proxy performance and target performance (execution time).



Analytics Walkthrough

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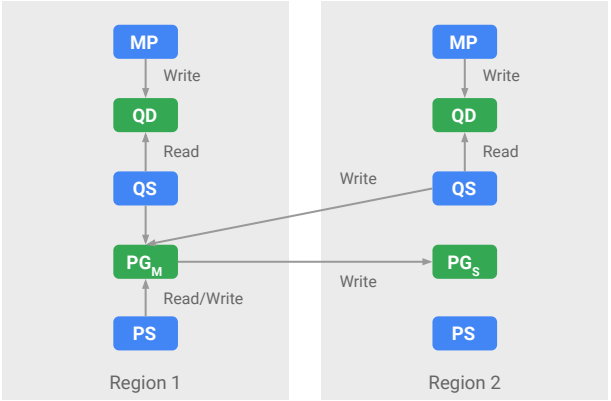
Analytics Data Partitioning

- Analytics data is partitioned by organization and environment
- Raw data is aggregated. Aggregates are presented in the Enterprise UI.
- Raw data can be queried from UI and Management API using custom reports.

Analytics data flow

- Two possible data replication models. Master/Slave (default) and Active/Active (based on publish/subscribe).
- Analytics data is generated by Message Processor and asynchronously send to Qpid.
- Ingest process consumes analytics raw data from Qpid and stores it on PostgreSQL.
- Data on PostgresSQL is logically partitioned by organization and environment.
- PostgresServer aggregates data.
- Analytics record size is about 2kb. It will vary if custom variables are captured.
- Analytics components are logically assigned to organization and environments using analytics groups.



Analytics Groups

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Analytics Groups

Analytics groups (axgroup) are a data structures containing information regarding the Qpid and Postgres servers associated to a given organization and environment.

```
curl -u <sysAdminEmail>:<passwd> "http://<ms_IP>:8080/v1/analytics/groups/ax"
[ {
  "name" : "axgroup001",
  "properties" : {
    "consumer-type" : "ax"
  },
  "scopes" : [ "traininglab~prod" ],
  "uuids" : {
    "postgres-server" : [ "baf7d9d5-618c-4ce4-8c5b-23ad2c62eb51:489aa9b0-b764-4ade-8615-27db09e9deca" ],
    "qpid-server" : [ "708cf21f-2efe-41c9-97b5-809e56676347", "4f1c20e5-0dc5-450c-8619-3cd9fe75ce4b" ]
  },
  "consumer-groups" : [ {
    "name" : "consumer-group-001",
    "consumers" : [ "708cf21f-2efe-41c9-97b5-809e56676347", "4f1c20e5-0dc5-450c-8619-3cd9fe75ce4b" ],
    "datastores" : [ "baf7d9d5-618c-4ce4-8c5b-23ad2c62eb51:489aa9b0-b764-4ade-8615-27db09e9deca" ],
    "properties" : {
    }
  } ],
  "data-processors" : {
  }
} ]
```

Creating Analytics Groups

Most customers never had need for new analytics groups. You may only have to interact with analytics groups if you are horizontally scaling analytics pipeline or manually configuring it.

Creating groups takes the following structure and makes use of management API calls

- Create the new group
- Create a consumer group within the analytics group
- Set the consumer type (AX) and Region
- Add Postgres servers
- Add QPID servers

Updating an Analytics Group

Updating Postgres Servers

To update the master, slave pair of PG servers, the existing UUIDs should to be removed and new UUIDs should be added.

Stop qpid-agent before updating the axgroup and start it back once the update is complete.

Moving Scope from one analytics group to another

- Add scope to new analytics group
- Confirm scope has been added correctly
- Delete scope from current analytics group

Thank You

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Updating axgroup

To update the master, slave pair of PG servers, the existing UUIDs should to be removed and new UUIDs should be added.
Stop qpid-agent before updating the axgroup and start it back once the update is complete.

Removing the existing Postgres UUID:

```
curl -v -u <sysAdminEmail>:<passwd> -X DELETE -H 'Accept:application/json'
"http://<ms_IP>:8080/v1/analytics/groups/ax/<axgroup-name>/consumer-groups/<consumer-group>/datastores/<masteruuid>,<
slaveuuid>"
```

```
curl -v -u <sysAdminEmail>:<passwd> -X DELETE -H 'Accept:application/json'
"http://<ms_IP>:8080/v1/analytics/groups/ax/<axgroup-name>/servers?uuid=<masteruuid>,<slaveuuid>&type=postgres-server
"
```

Adding new Postgres UUIDs

```
curl -v -u <sysAdminEmail>:<passwd> -X POST -H 'Accept:application/json' -H'Content-Type:application/json'
"http://<ms_IP>:8080/v1/analytics/groups/ax/<axgroup-name>/servers?uuid=<masteruuid>,<slaveuuid>&type=postgres-server
"
```

```
curl -v -<sysAdminEmail>:<passwd> -X POST -H 'Accept:application/json' -H'Content-Type:application/json'
"http://<ms_IP>:8080/v1/analytics/groups/ax/<axgroup-name>/consumer-groups/<consumer-group>/datastores?uuid=<masteruu
id>,<slaveuuid>"
```

Move scope from one axgroup to other axgroup

This action might require a restart of message-processor for the specific scope.

Add the scope to new axgroup

```
curl -v -u <sysAdminEmail>:<passwd> -X POST
"http://<ms_IP>:8080/v1/analytics/groups/ax/<new-axgroup-name>/scopes?org=<org>&env=<env>" -H
"content-type: application/json"
```

To confirm the scope addition

```
curl -v -u <sysAdminEmail>:<passwd> -X GET "http://<ms_IP>:8080/v1/analytics/groups/ax/<new-axgroup-name>/"
```

Remove the scope from the old axgroup

```
curl -v -u <sysAdminEmail>:<passwd> -X DELETE
"http://<ms_IP>:8080/v1/analytics/groups/ax/<old-axgroup-name>/scopes?org=<org>&env=<env>"
```

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Deleting from axgroup

Removing the existing Postgres UUID:

```
curl -v -u <sysAdminEmail>:<passwd> -X DELETE -H "Accept:application/json"
"http://<ms_IP>:8080/v1/analytics/groups/ax/<axgroup-name>/consumer-groups/<consumer-group>/datastores/<masteruuid>,<slaveuuid>"
```

```
curl -v -u <sysAdminEmail>:<passwd>  -X DELETE -H "Accept:application/json"
"http://<ms_IP>:8080/v1/analytics/groups/ax/<axgroup-name>/servers?uuid=<masteruuid>,<slaveuuid>&type=postgres-server"
```

Delete a Qpid server from axgroup:

```
curl -v -u <sysAdminEmail>:<passwd> -X DELETE -H "Accept:application/json"
"http://<ms_IP>:8080/v1/analytics/groups/ax/<axgroup-name>/consumer-groups/<consumer-group>/consumers/<qpiduuid>"
```

```
curl -v -u <sysAdminEmail>:<passwd> -H "Content-Type: application/json" -X DELETE
"http://<ms_IP>:8080/v1/analytics/groups/ax/<axgroup-name>/servers?uuid=<qpiduuid>&type=qpid-server”
```