Providing support in **SuperQuota**

AGENDA

SuperQuota's mission is to provide a **central infrastructure** for **viewing, managing,** and **understanding quota usage** across all **Google APIs** and **services** for the **Google Cloud Platform.**
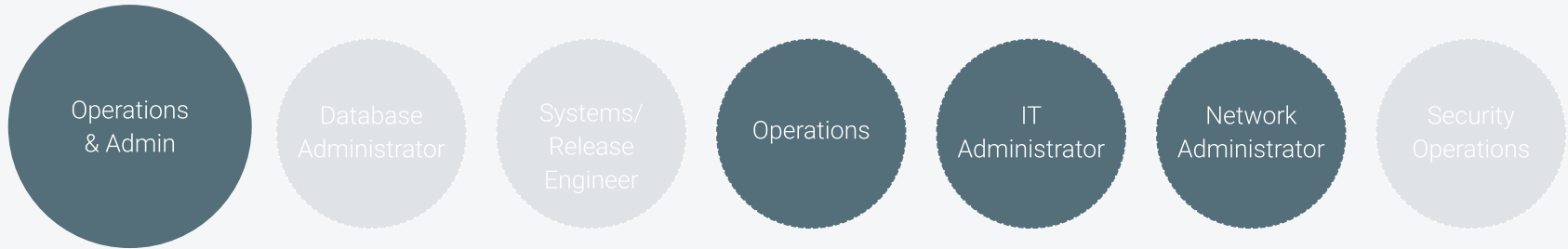
A quota is defined as having a **metric**, **unit**, **region** and **zone** combination.

USER ROLES

Tracks **infrastructure** and r**esources**.

Responds to problems such as **quotas** reaching their **limits**.

Operations & Admin

Database Administrator

Systems/ Release Engineer

Operations

IT Administrator

Network Administrator

Security Operations

CASE 01. Internal management quota requests

How can we **provide** a way for organizations (who are using services through adoption of org-level quotas) to handle **internal requests for quota increases** for **projects?**

Why is this a problem?

Today, **project owners** can only see a message telling them to "**contact your organization's quota administrator**".

But in a **large org,** that person **might not know** who to contact.

This is a **blocker** for adoption of org-level quotas and a **pain** for **Cloud Support** (they don't know contact info for quota admins and don't want to file support tickets).

There needs to be a **mechanism** to notify those in the **organization** with **adequate permissions** that a **project** needs **more quotas**.

CONSTRAINTS
* <mark style="background-color:red;color:yellow;">AVOID</mark> <mark style="background-color:red;color:yellow;">AVOID</mark> <mark style="background-color:red;color:yellow;">AVOID</mark> building a ticketing system.

* Angry, ugly colors as this was constantly drilled into everyone's mind from ENG and PM.

What is Cloud Feed?

Comprehensive repository of all GCP events and activities
Easy fan-in for GCP teams to share activities with users
Human-understandable schema, including call to action
Human-driven configuration with notification and opt-in/out control

Why Cloud Feed?

1. Cloud Feed does not require **sender** (project owner) to know who the **recipients** (i.e. quota admins) are

2. Project owner can request several quota increases

3. Provides a **time-stamp** + **message** to attach to it (view from admin side)
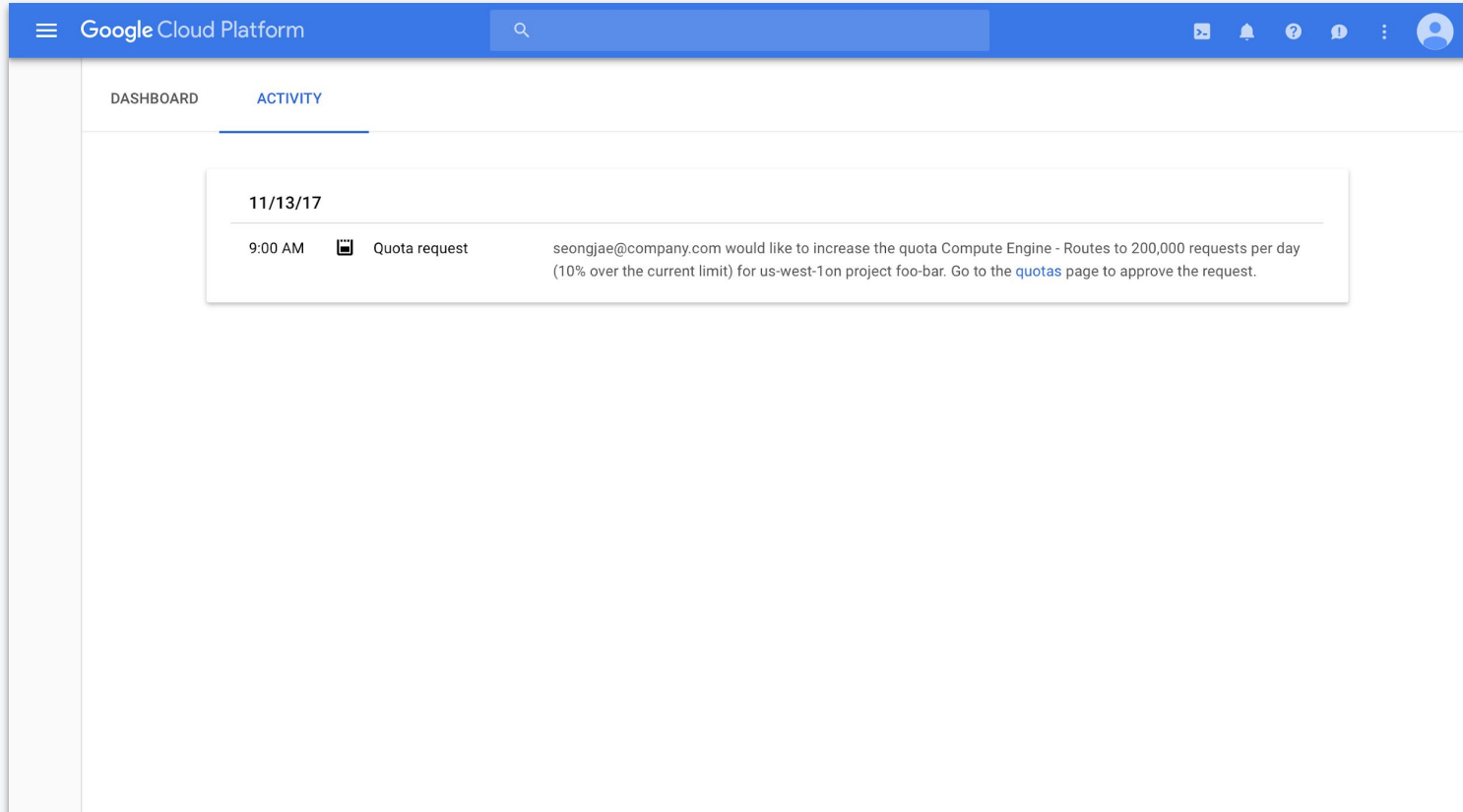
4. Supports **email notifications** at project-level
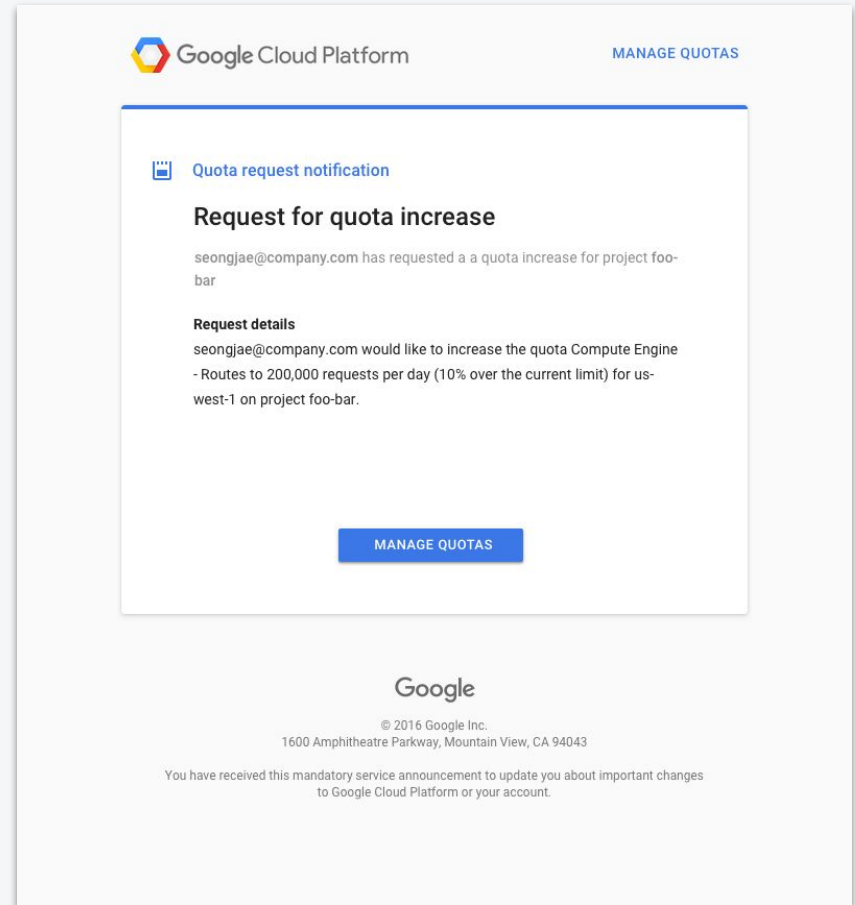
CASE 02. Org level advanced warnings

How can we **inform** users when their **quota usage** is being (or about to be) **limited** due to its **ancestor's quota limit**?

Why is this a problem?

Example
1 The folder's limit caps off at 48 VMs
      2 The project limit caps off at 100 VMs
           3 The folder only has this project (no other sibling projects)

Then further quota requests will be limited for this project.

…however, in this project scope view, **the user won't know** if it is being limited.

Provide **warning icon + banner**, with follow-up action to admin

Contact admin panel appears

Cloud Feed is deep linked from View Requests -- with quotas already filtered

CASE 03. Solving short term rate quotas

How can we show **short-term rate quotas** (per minute, per 100 seconds) in the quotas page as it is the **most common** in **APIs/services**?
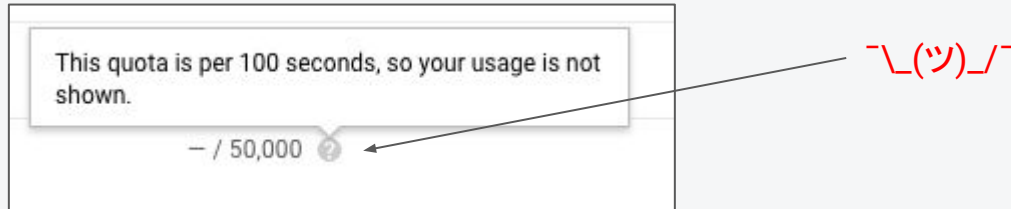
Why is this a problem?

Suppose a customer uses APIs/services with **only short-term quotas**, all Quotas page **won't** give the **customer** any **usage data**.

RIGHT NOW

We provide a **question mark** with an **explanation text**.

i.e. "This quota is per minute, so your usage is not shown."

This quota is per 100 seconds, so your usage is not shown.

— / 50,000

¯_(ツ)_/¯

It's still **not** clear to our customers what this means.

CONSTRAINTS

It's **impossible** to show short-term usage because it is **constantly changing** -- the user will have to **refresh the page** every second // minute //etc to continue to see its **changing state**.

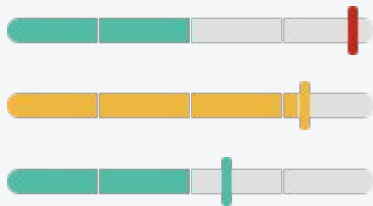It's also not as meaningful, since the window shown is so short.

Users care more about **trends** rather than **snapshots.**

INTRODUCE 7 DAY PEAK AS AN ADDITIONAL INDICATOR

Pill usage component today:
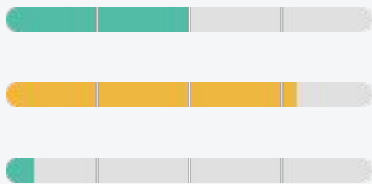
Usage + 7 day peak usage:

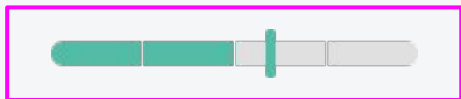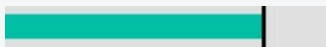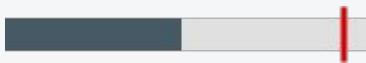**Current usage** Good | **7 Day Peak** Danger

Current usage Warning | **7 Day Peak** Warning

Current usage Good | **7 Day Peak** Good

W: 5px
H: 24px
Radius: 2

USER FEEDBACK

EXPLORATIONS

Bar & Line makes a little more sense. As I'm looking at them side by side I'm liking Bar & Line more.

P1

Google is pretty good at keeping things simple and I think it's simple and intuitive and easy to read and something that is actually useful and is not something that I have to learn how to use before looking at it.

P2

I think that one is the easiest to quickly look at and interpret your stats.

P10

All quotas page

Sortable by current usage or 7 day peak

CASE 04. Safe override

How can we ensure that **high risk quota** changes be **safely** applied (> 10% increase)?

Modal dialog that acts as an extra **safeguard** for the user

Background research shows that users want to see **both %** and **#** when it comes to viewing and understanding their quotas.

Override confirmation for 3 requests
The following quota request changes will cause more than a 10% change of effective limit.

Routes   from 80 to **unlimited** ↑
Compute Engine API

Queries per day   from 1,000 to 1,231,232 (123,023.2% incr...) ↑
Apiary Zoo

Google internal queries per 100 sec per...   from 240,611 to 1,231 (99.49% decrease) ↓
Google Cloud Storage JSON API

⌃ Less

CANCEL   CONFIRM
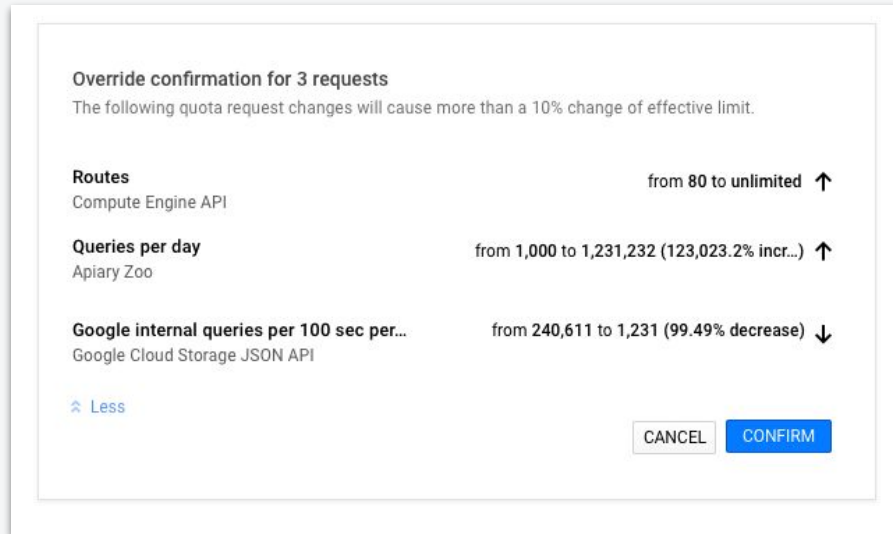
NEXT STEPS

UX DESIGN
RESEARCH
ENG

January	February	March	April	May	June	July	August	September	October	November	December

FILTER BAR -- 2 WEEKS

REDESIGN EXPLORATIONS -- 3 WEEKS

CUJ FINALIZED

EVALUATION OF UI AGAINST CUJS

STACKDRIVER -- 2 WEEKS

SHORT TERM QUOTA RATE LAUNCH

USABILITY STUDY

CLOUD FEED LAUNCH

SAFE OVERRIDE LAUNCH

ORG WARNING LAUNCH

THANK YOU