Google Cloud

Google Cloud Architect Design and Process Workbook

1a. Defining your case study

Come up with a case study. Then fill in the next slide.

Examples:

- Online Banking Portal
- Ride sharing application (like Uber)
- Online shopping site
- Something else...

1b. [Case Study Name Here]

Brief description:

List a few main features:

List roles of typical users:

2a. Writing user personas

Create two user personas that describe typical users of your ap
Add a new slide for each persona.

Example persona:

*Jocelyn is a busy working mom who wants to access MegaC
and make sure that there are enough funds to pay for her kid
the web site to automate payment of bills and see her credit
time and money, and she wants a credit card that gives her c*

2b. Writing user stories

Create three user stories for the roles you defined earlier. Create a new slide for each user story.

Example user story:

Balance Inquiry

***As a** checking account holder, **I want to** check my available b*
sure not to overdraw my account.

3. Defining SLIs and SLOs

Based on the requirements of your case study, fill in the table c
as shown in the example below.

User story	SLO
Balance Inquiry	*Available 99.95%*
Balance Inquiry	*95% of requests complete in under 300 ms*

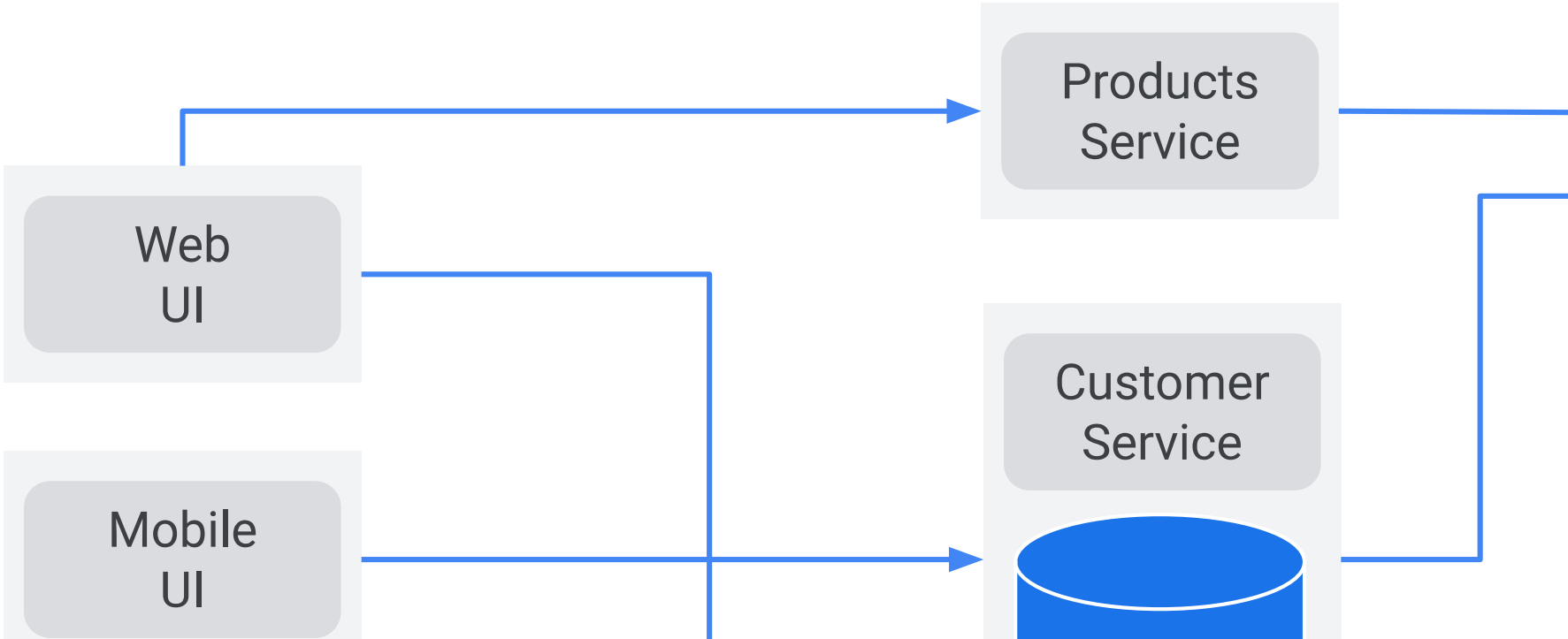
3. Defining SLIs and SLOs

Based on the requirements of your case study, fill in the table b

User story	SLO

4. Design microservices for your ap

Draw a diagram on the next slide showing your application's m
Below is an example.



4. Design microservices for your ap

Draw a diagram showing your application's microservices and

5. Designing REST APIs

Fill in the table on the next slide with your services and their re
the example below.

Service name	Collections
Account Service	*transactions*

5. Designing REST APIs

Fill in the table with your services and their resources and oper

Service name	Collections

6. Defining storage characteristics

On the next slide fill in the required storage features. Below is a

Service	Structured or Unstructured	SQL or NoSQL	Strong o Eventua Consiste
Account Service	*Structured*	*SQL*	*Strong*

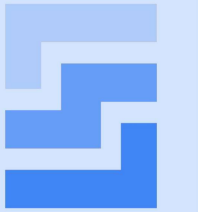
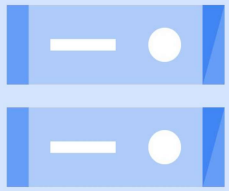
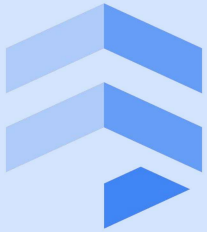
6. Defining storage characteristics

Fill in the required storage features.

Service	Structured or Unstructured	SQL or NoSQL	Strong o Eventua Consiste

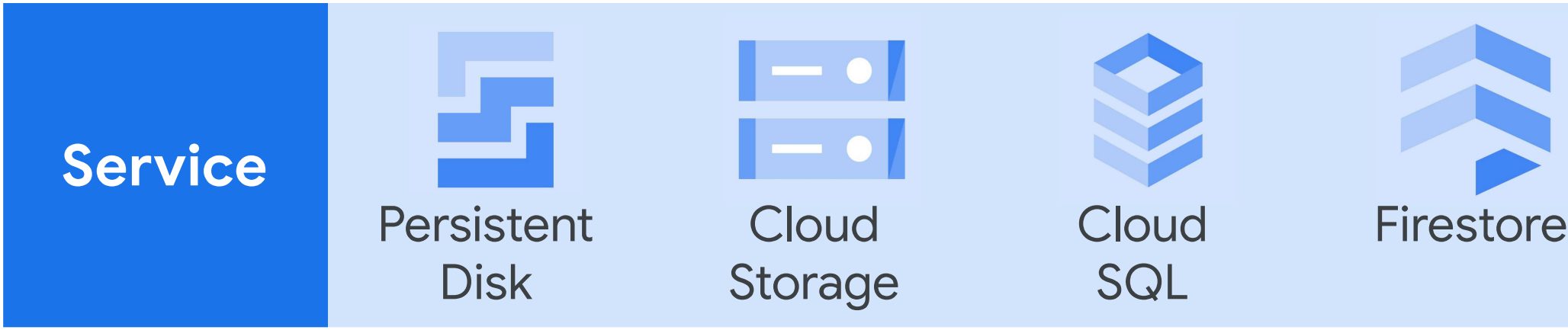
7. Choosing Google Cloud Storage

On the next slide choose the Google Cloud storage products fo
Below is an example.

Service	 Persistent Disk	 Cloud Storage	 Cloud SQL	 Firestore
Account Service			X	

7. Choosing Google Cloud Storage

Choose the Google Cloud storage products for each service.



8a. Defining network characteristic

On the next slide fill in the required network features. Below is

Service	Internet facing or Internal only	HTTP	TCP
Account	*Internal only*		*X*

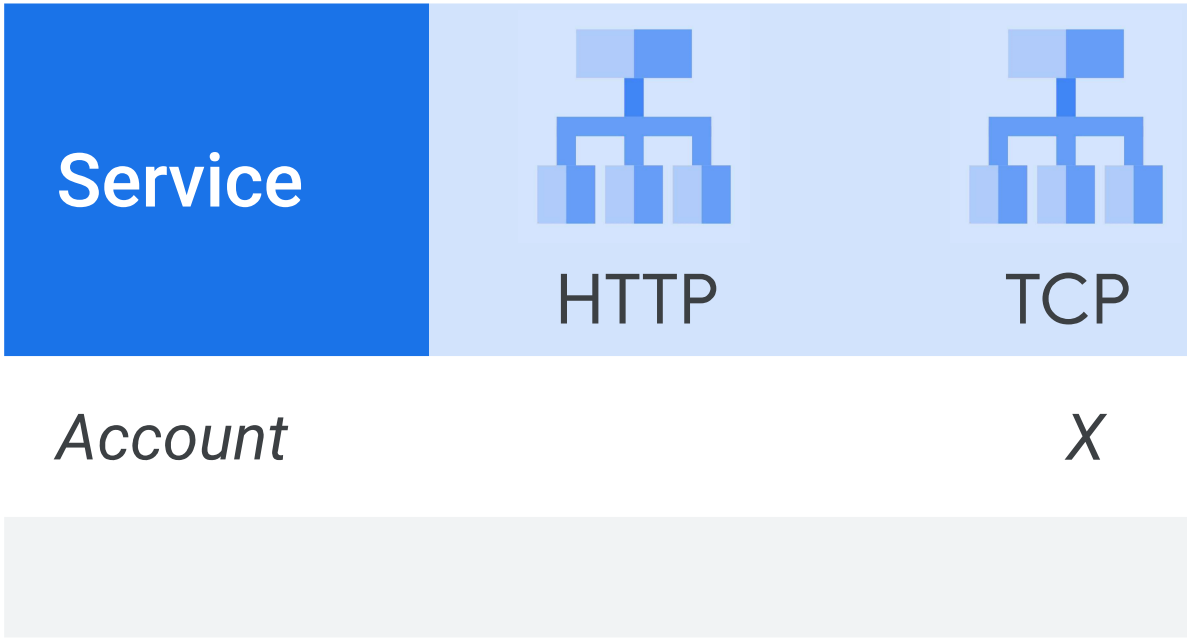
8a. Defining network characteristic

Fill in the required network features.

Service	Internet facing or Internal only	HTTP	TCP

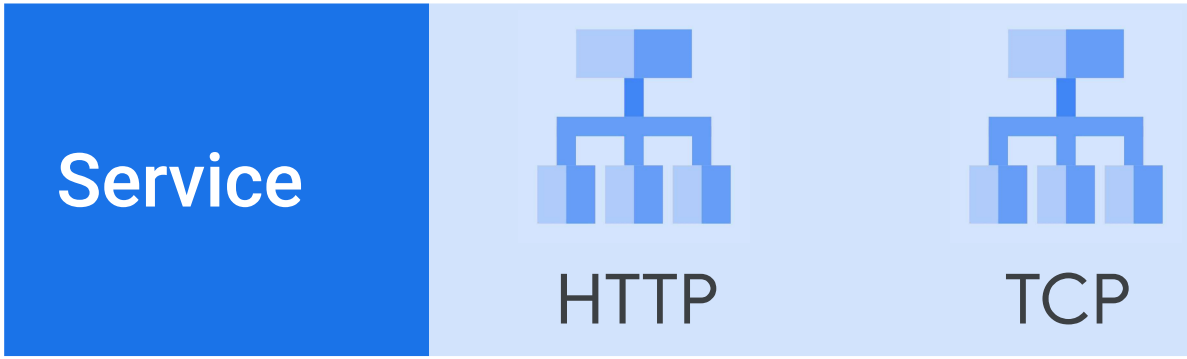
8b. Select the load balancers for yo

On the next slide choose the Google Cloud load balancer produ
Below is an example.



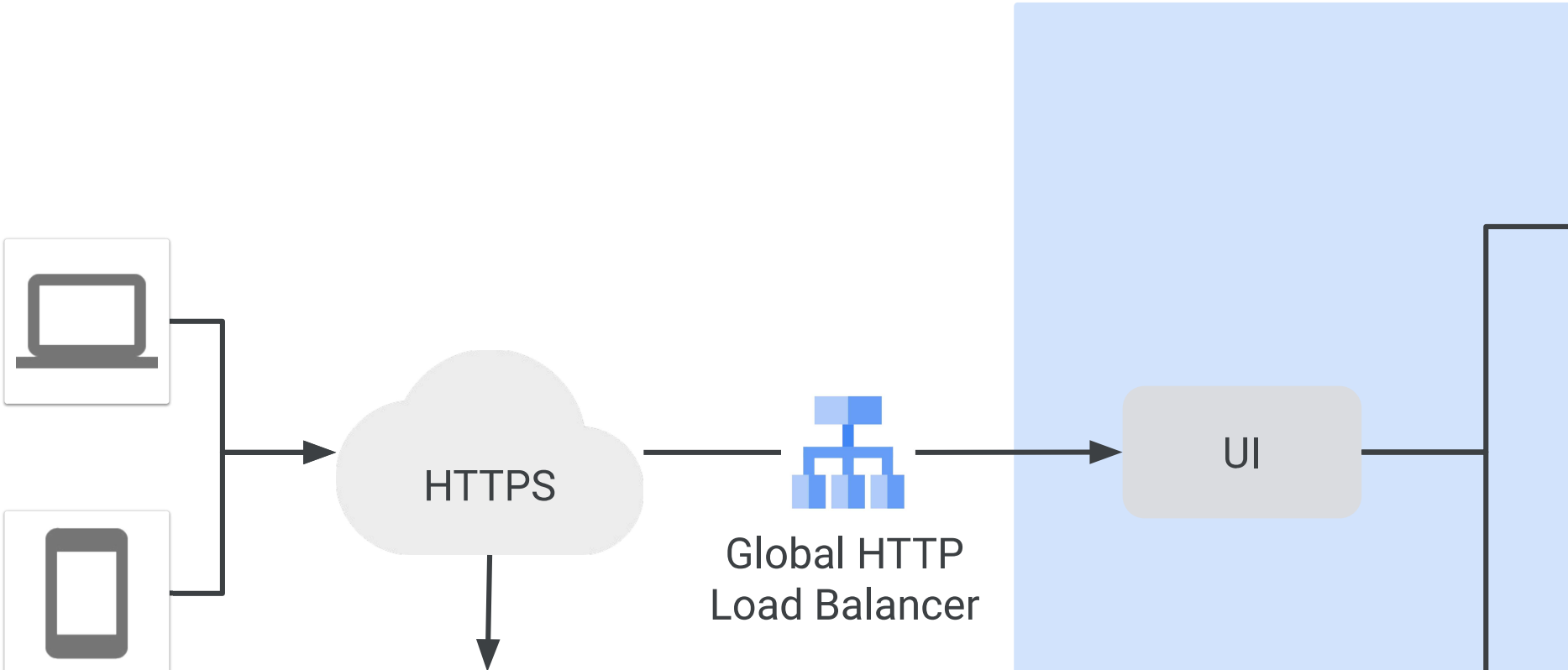
8b. Select the load balancers for yo

Choose the Google Cloud load balancer product(s) for each se



9. Diagramming your network

On the next slide draw a diagram that depicts how your service
Include regions, zones, load balancers, CDN, and DNS if applica

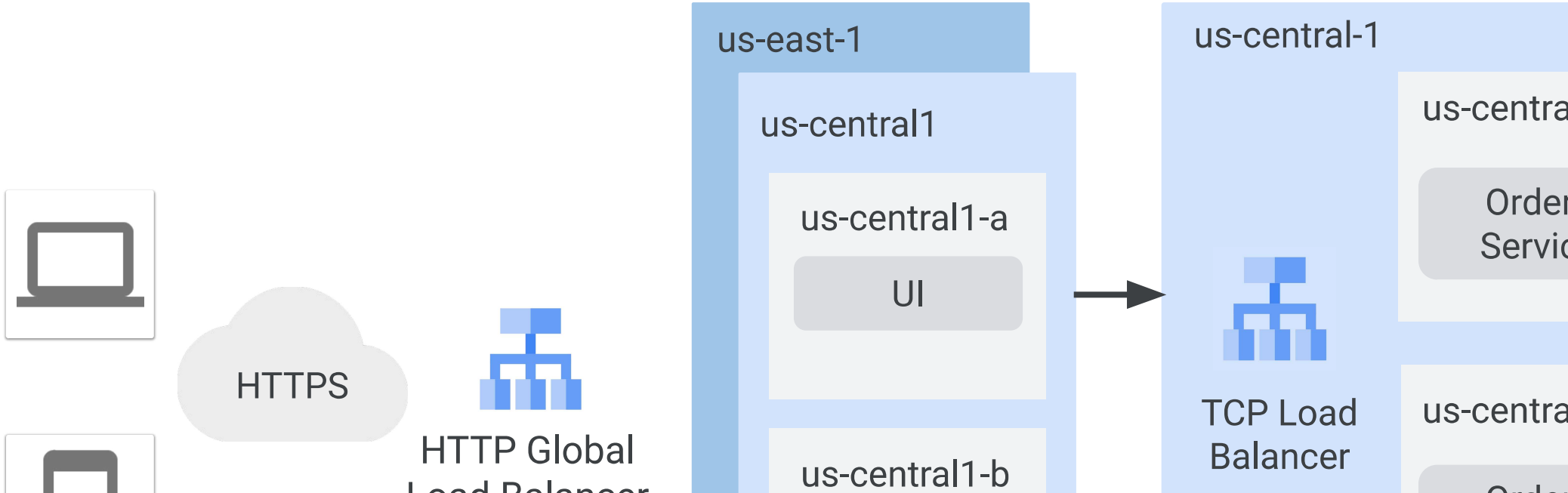


9. Diagramming your network

Draw a diagram that depicts how your services will communica
zones, load balancers, CDN, and DNS if applicable.

10. Designing reliable, scalable app

Even if some service is down, we want the web frontend of our
time. We also want the website to be fast with very low latency
slide, draw a diagram that depicts how we can achieve this usi
example.

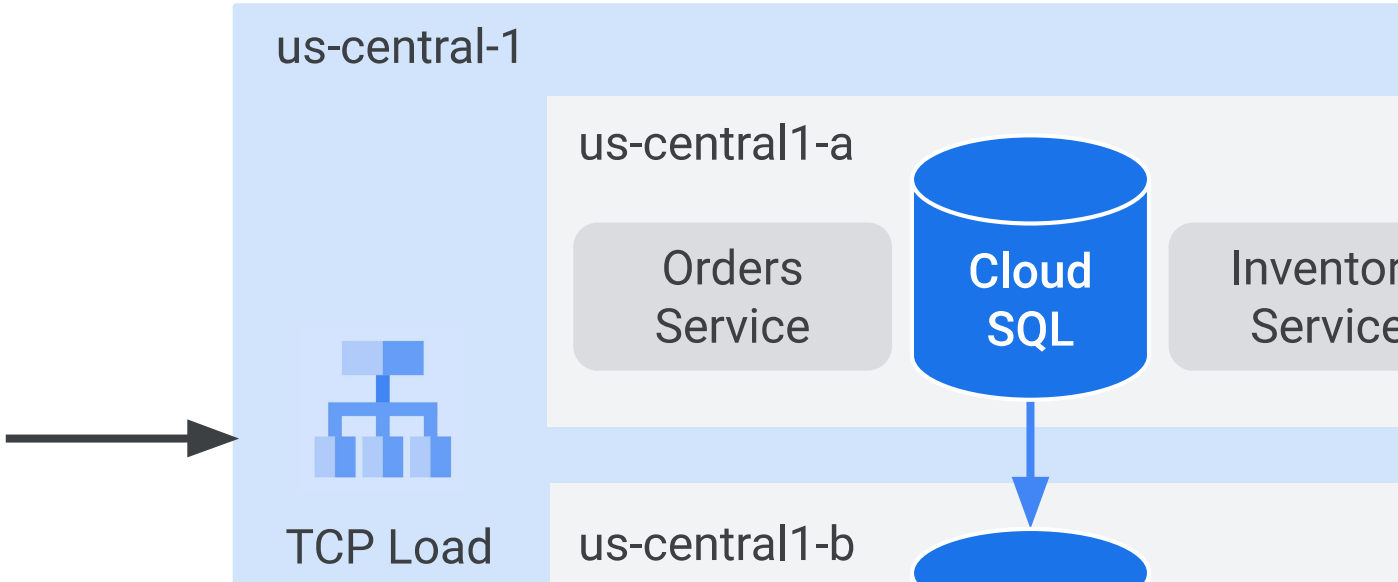


10. Designing reliable, scalable app

Even if some service is down, we want the web frontend of our
time. We also want the website to be fast with very low latency
diagram that depicts how we can achieve this using Google Cl

11a. Disaster recovery scenario

You've deployed for high availability by replicating resources in
regulatory requirements, you need a plan to recover from a disa
The current architecture is depicted below. On the next slide, cr
in another region if your main region is down. Below is an exam



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The current architecture is depicted on the previous slide. Crea
another region if your main region is down.

11b. Service disaster recovery scen

Write a high-level list of possible scenarios on the next slide. B

Service	Scenario	Recovery Point Objective
Ratings Service	*Programmer deleted all ratings accidentally*	*24 hours*
Orders Service	*Orders database crashes*	*0 (can't lose any data)*

11b. Service disaster recovery scen

Write a high-level list of possible scenarios.

Service	Scenario	Recovery Point Objective

11c. Resource disaster recovery pla

For each scenario, fill in the table on the next slide. Below is an

Resource	Backup Strategy	Backup L
Ratings Database	*Daily automated backups*	*Multi-Regi Storage Bu*
Orders Database	*Failover replica plus daily backups*	*Multi-zone*

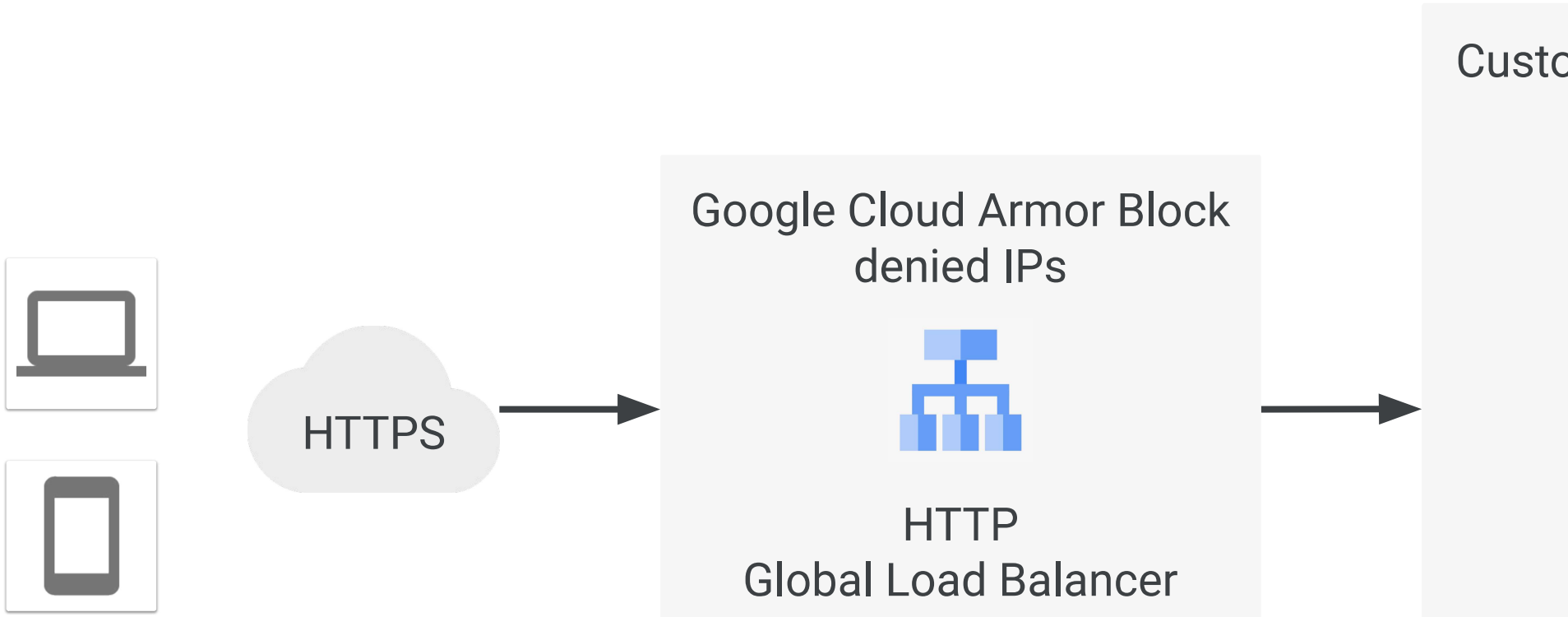
11c. Resource disaster recovery pla

For each scenario, fill in the table.

Resource	Backup Strategy	Backup L

12. Modeling secure Google Cloud

Draw a diagram on the next slide that depicts how you will sec
roles, service accounts and network resources as appropriate.



12. Modeling secure Google Cloud

Draw a diagram that depicts how you will secure your services accounts and network resources as appropriate.

13. Cost estimating and planning

Use the pricing calculator to determine and record on the next
Below is an example.

Service name	Google Cloud Resource
Accounts	*Cloud SQL*

13. Cost estimating and planning

Use the pricing calculator to determine and record the cost of

Service name	Google Cloud Resource