

Switch\_

# Switch edu-ID

## When the Login Fails

Filippo Costa, Frédéric Gerber

*VIScon, 11.10.2025*

# What is Switch doing?

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# Who are we?



**Filippo Costa**

DevOps Engineer

Trust & Identity (TRID)



**Frédéric Gerber**

DevOps Engineer

Trust & Identity (TRID)

# Plan for today

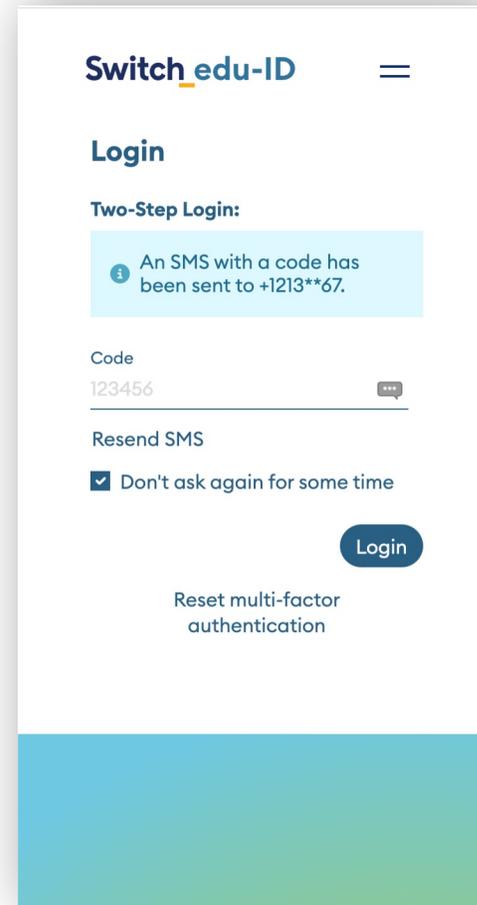
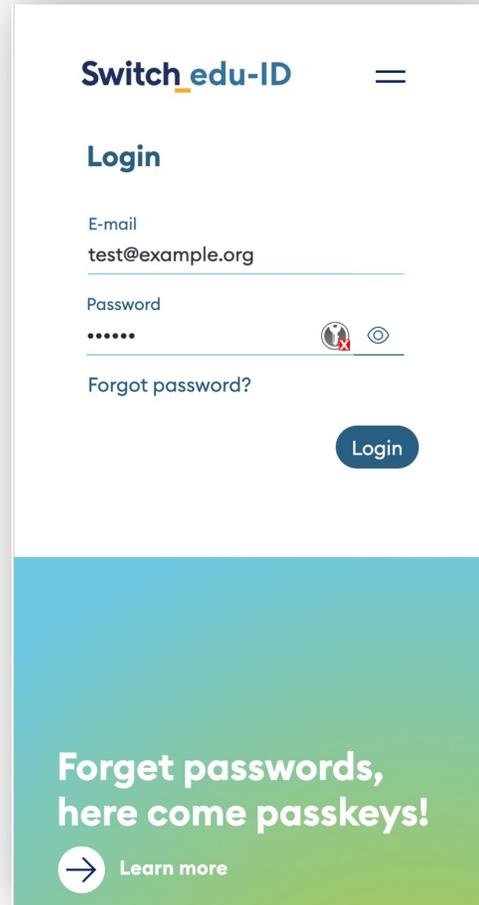
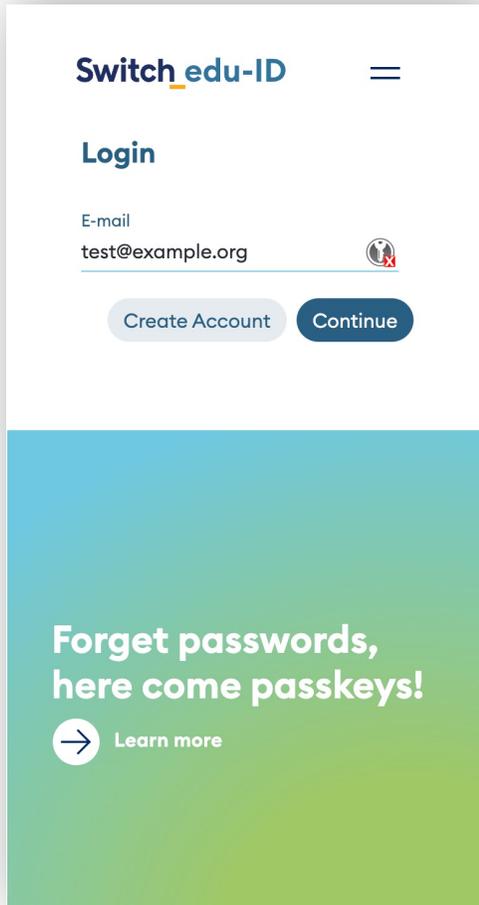
1. How edu-ID works
2. Learnings from past incidents
  - Client authentication
  - Message providers
  - Patching of virtual machines
3. Summary



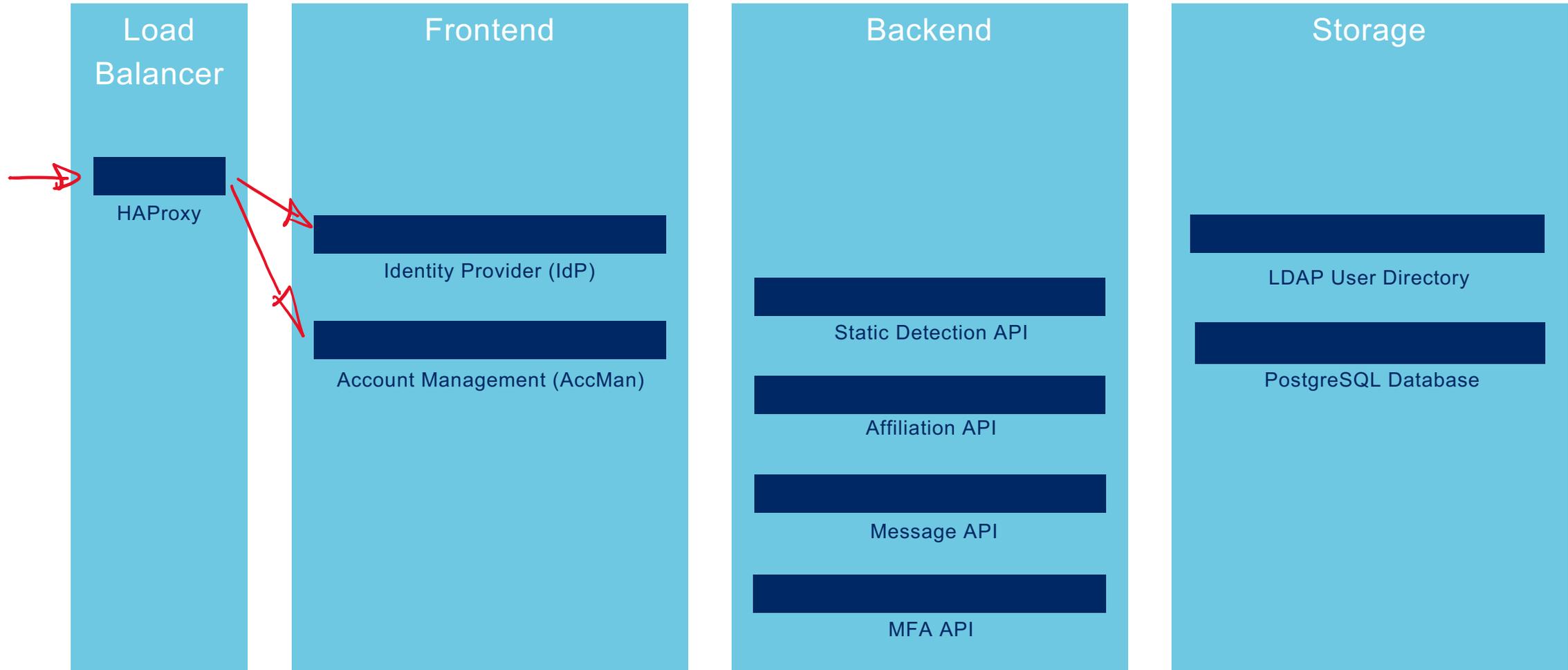
**Legend**

- Switch edu-ID adopted
- Adoption planning
- No adoption planning yet

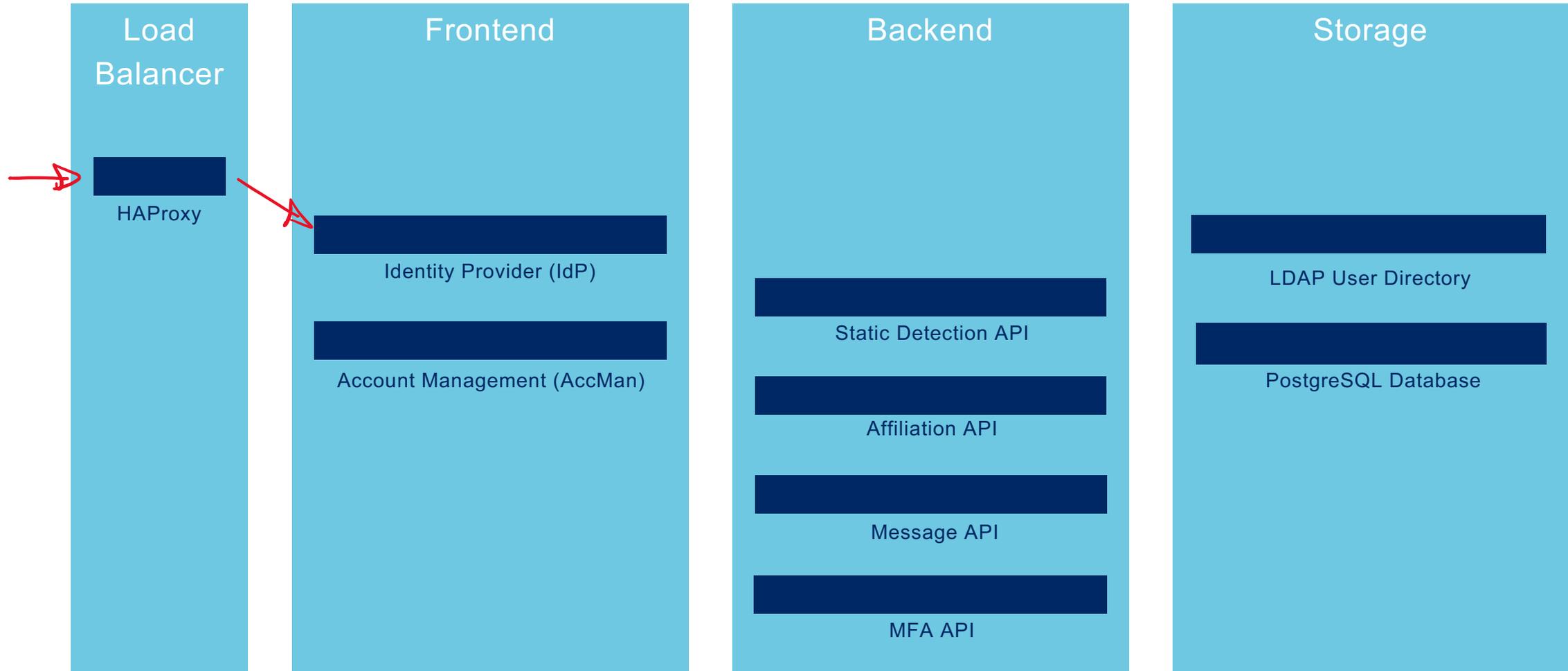
# Switch edu-ID Login Flow



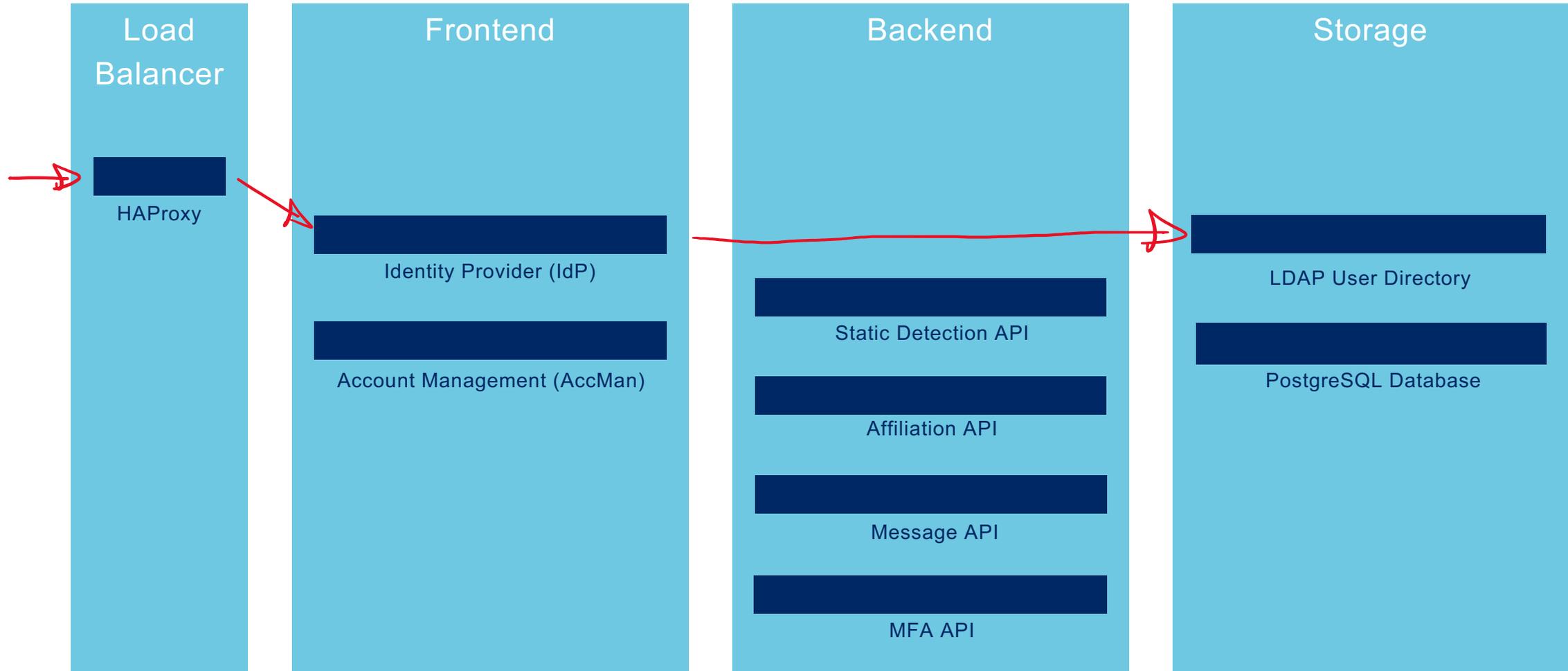
# How edu-ID works



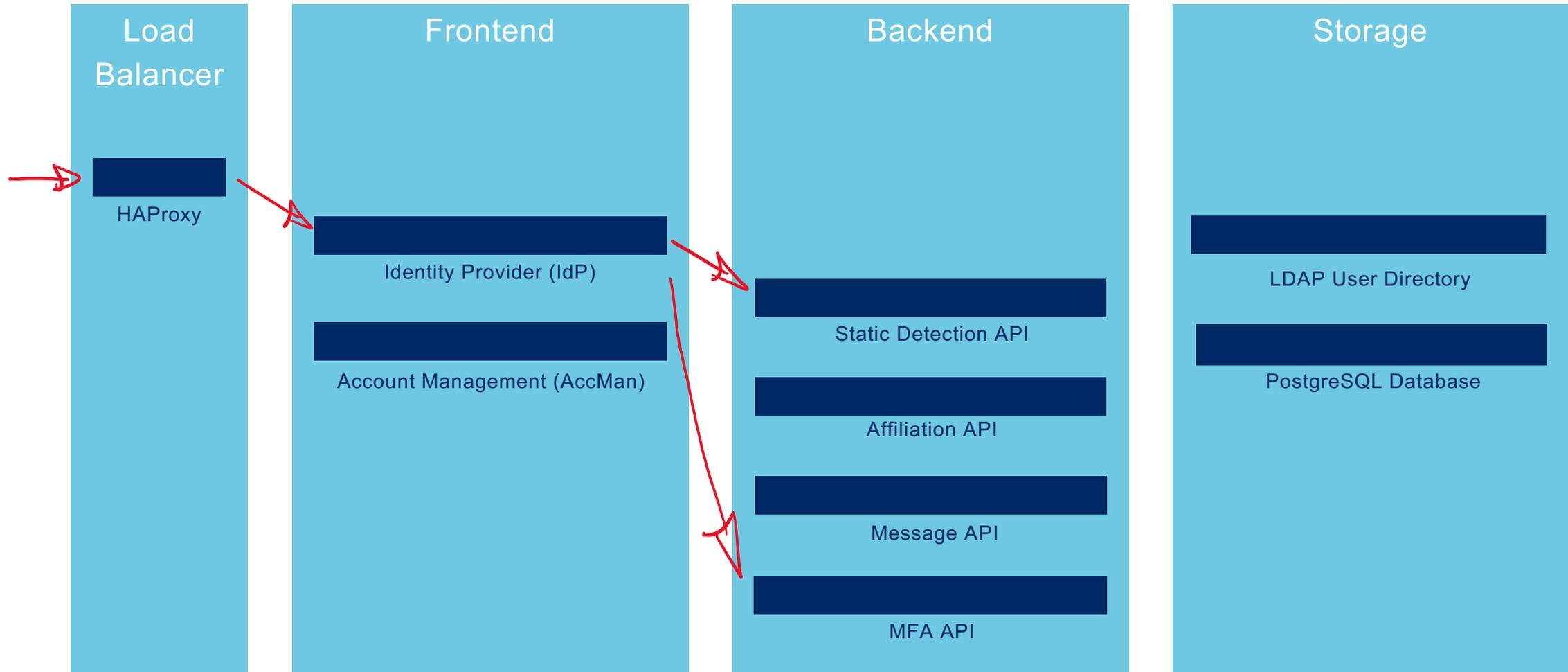
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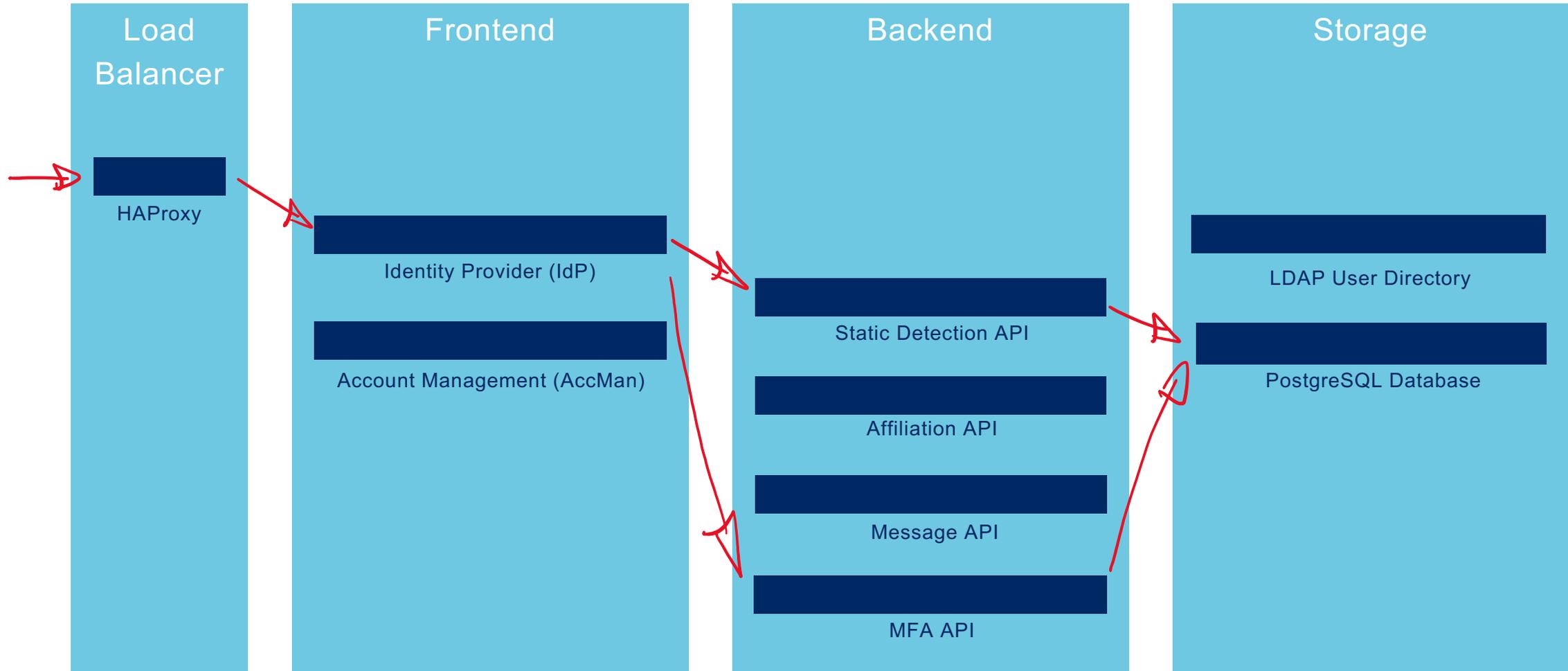
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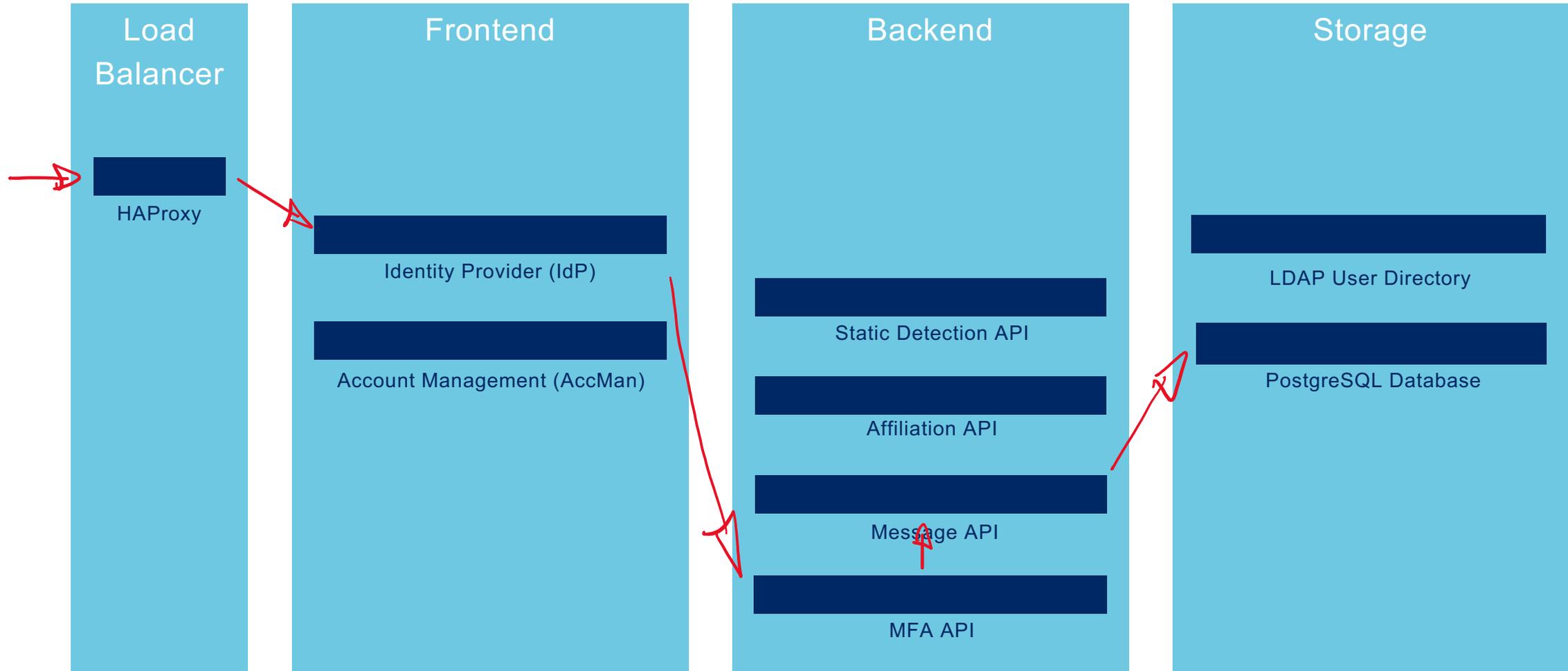
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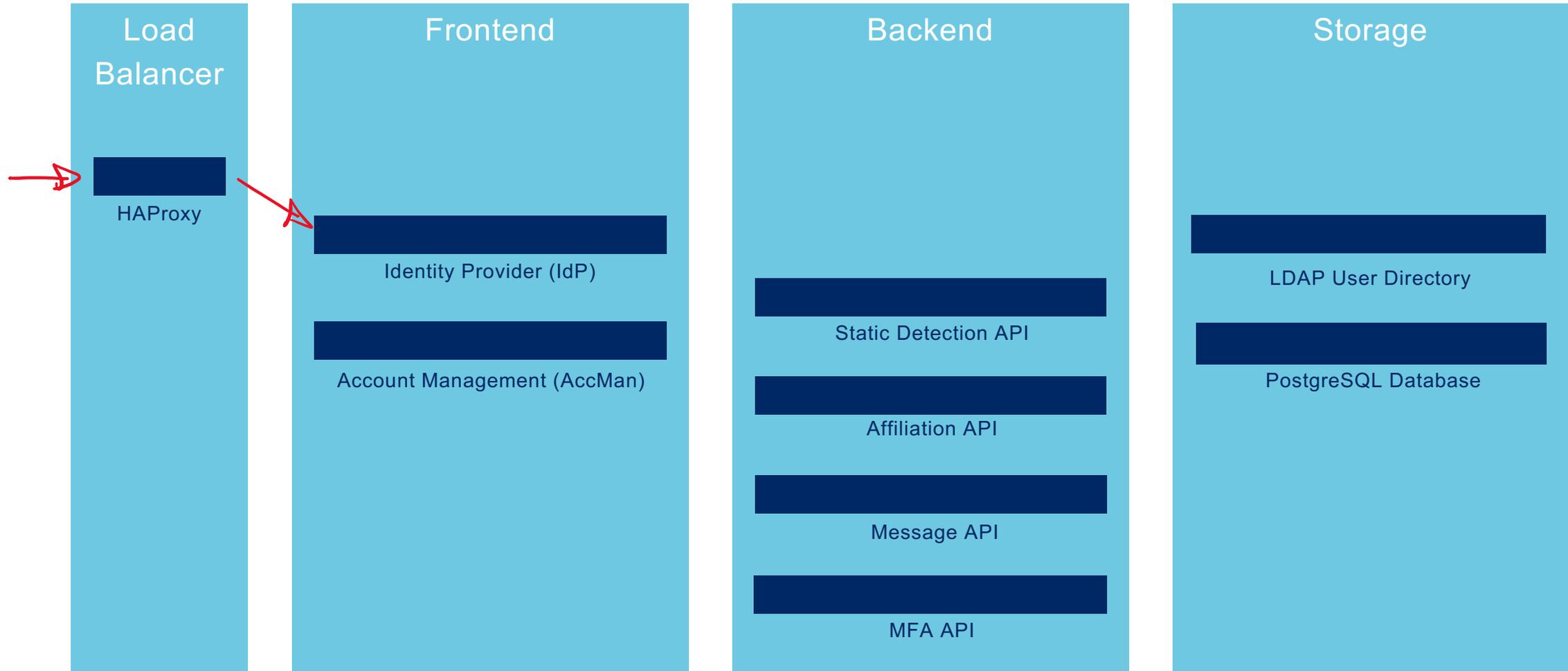
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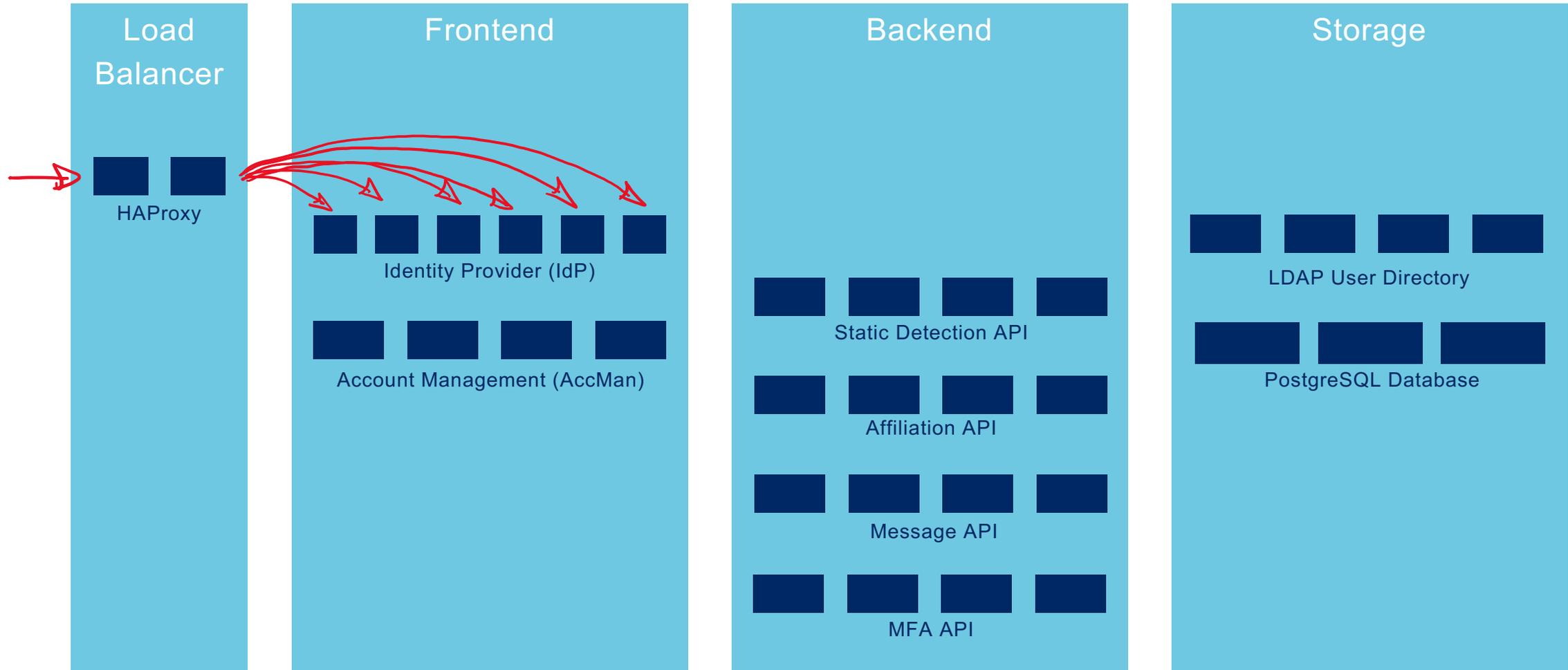
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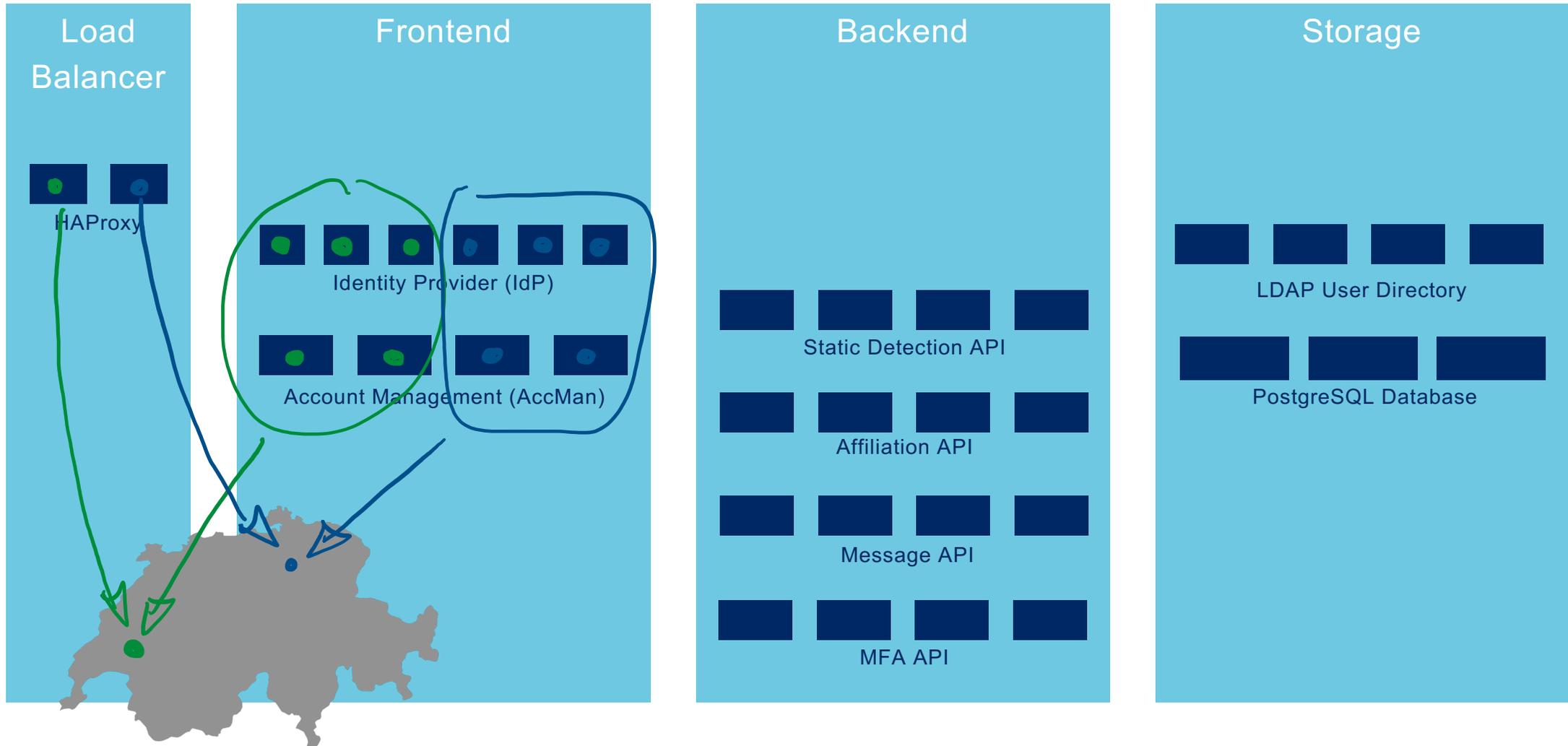
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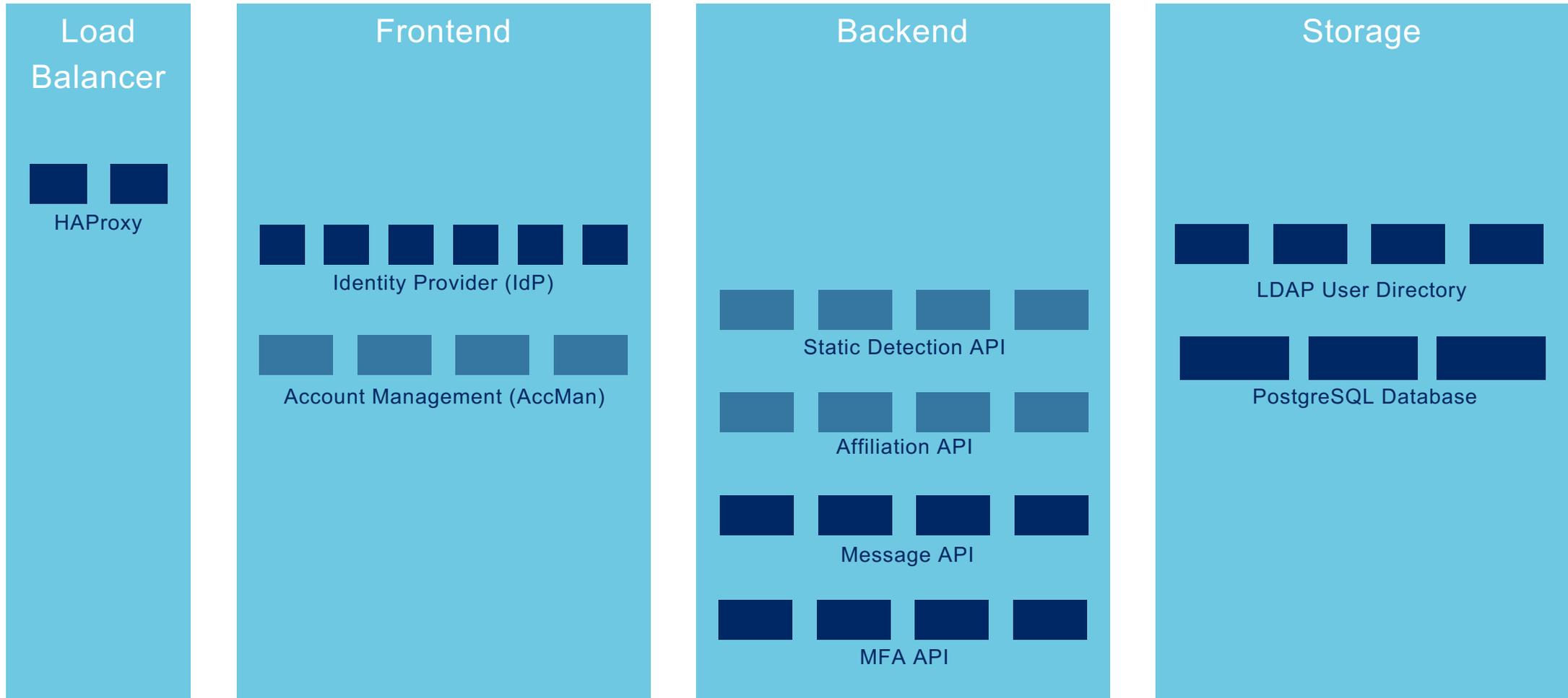
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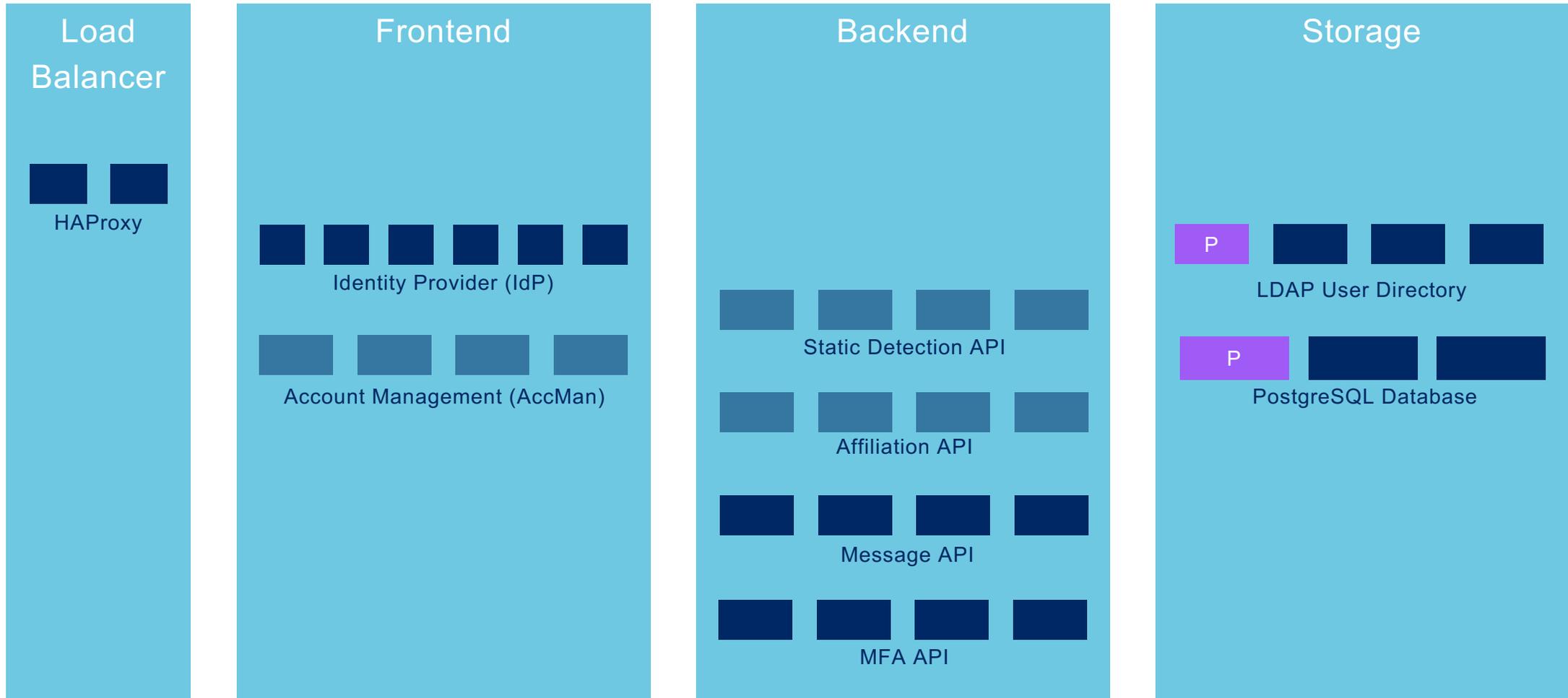
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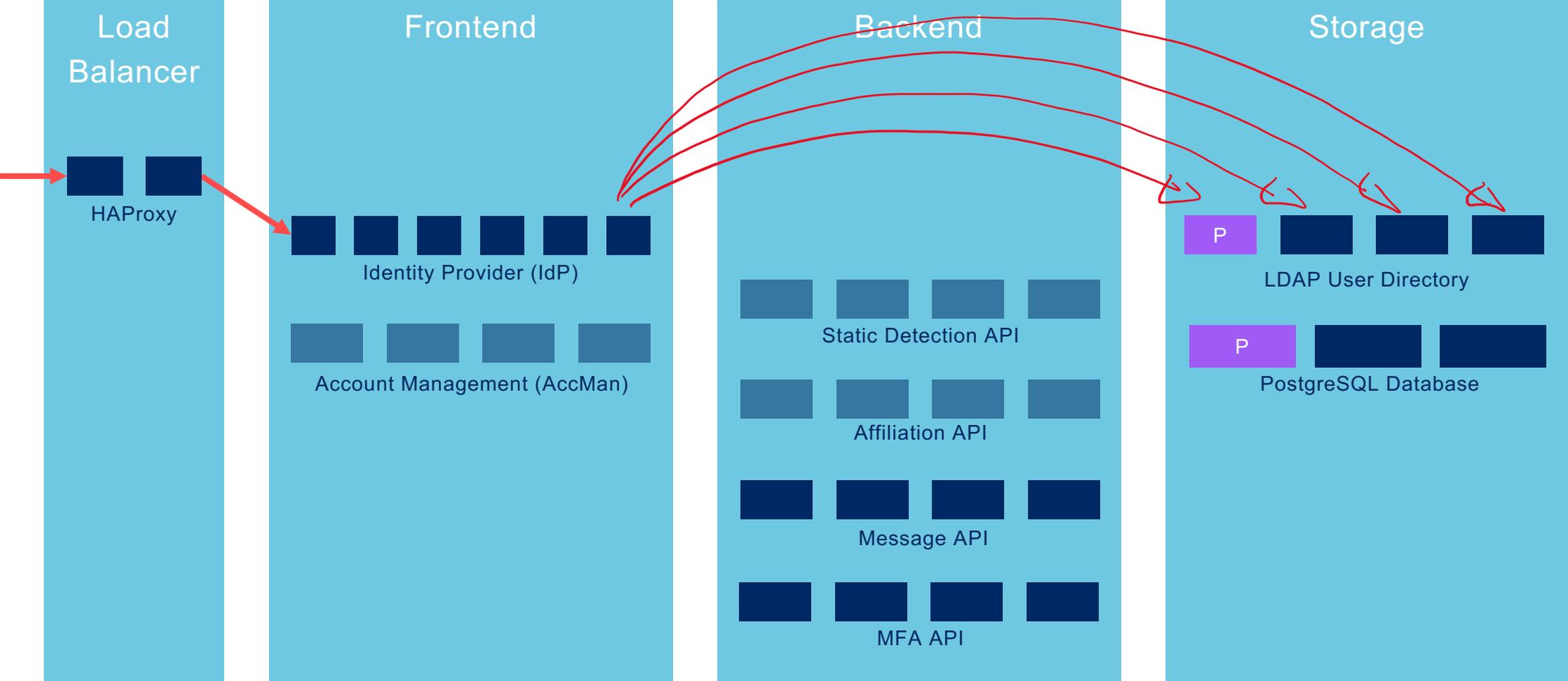
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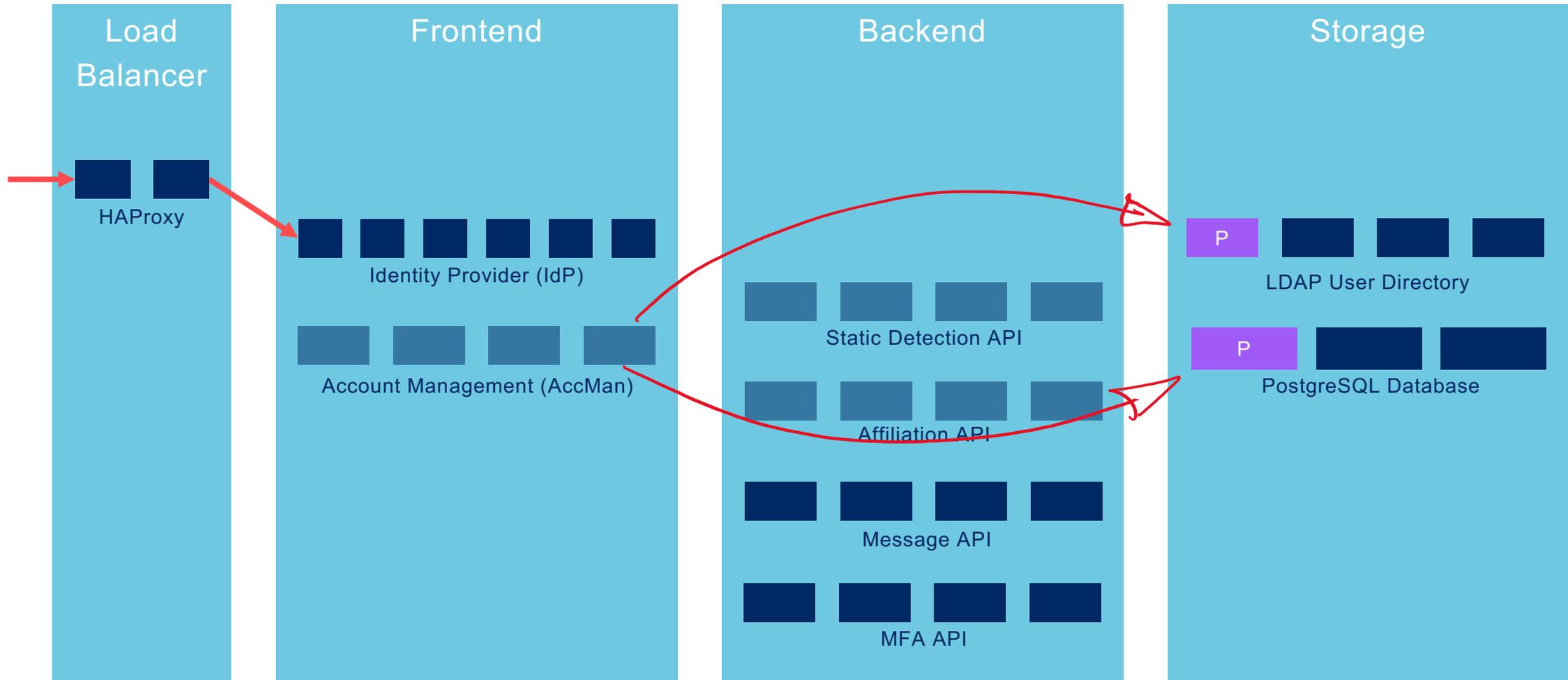
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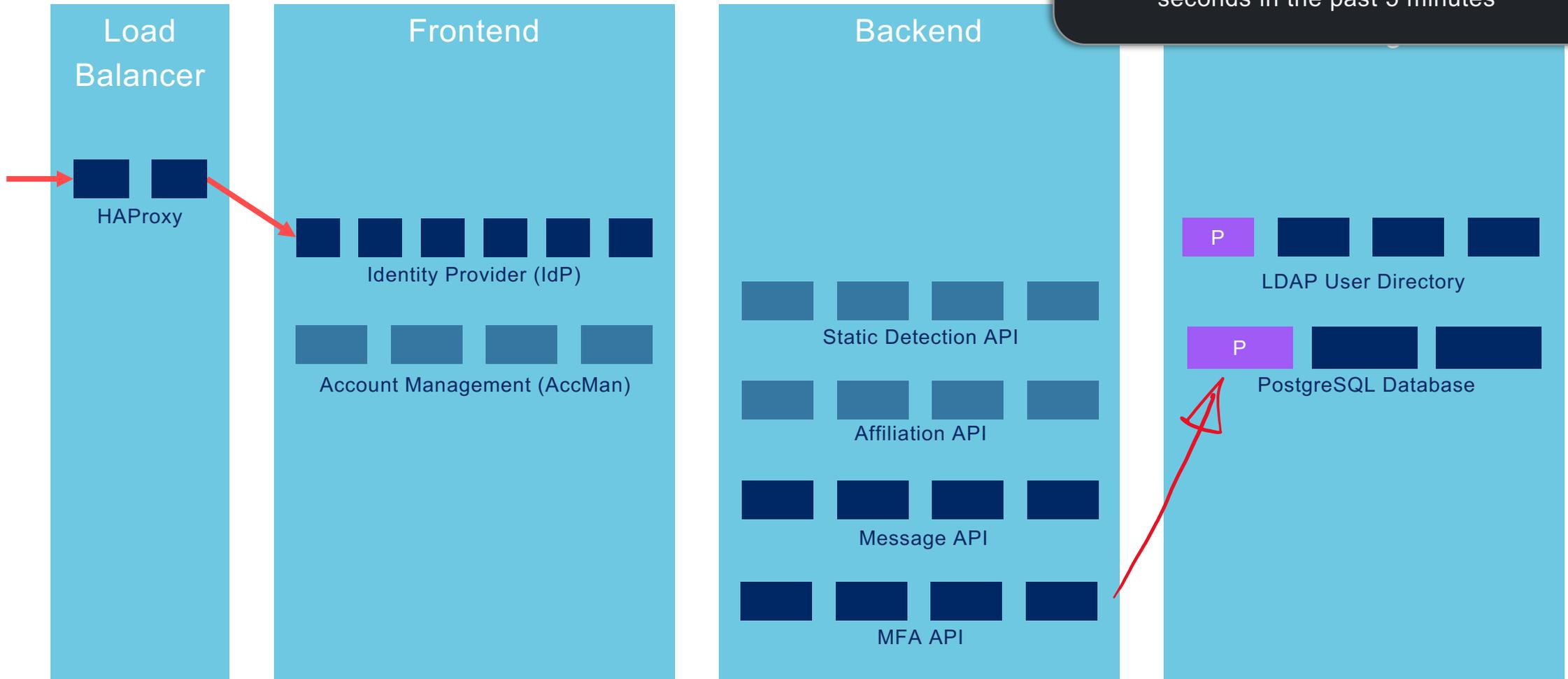
# How edu-ID works



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**[FIRING!] Alert Manager** now

 EduIDIdPProd-SSO-Private-MFA: PROBLEM.  
Many login requests have taken more than 3 seconds in the past 5 minutes



# 1 - We don't know anything

- a) Try to log in
- b) Restart the service
- c) Mute the warning
- d) Send out an announcement

# 1 - We don't know anything

a) Try to log in – 1st

~~b) Restart the service~~

~~c) Mute the warning~~

d) Send out an announcement – 2nd

Forget passwords, here  
come passkeys!



Learn more

Switch\_educ-ID

Help EN ▾

## Login



Write a message here?

E-mail

alex.taylor@example.org



Create Account

Continue

## 2 - We should quickly reduce load

- a) Disable the Static Detection API
- b) Limit user access
- c) Ask users to not retry to log in
- d) Restart the Identity Provider instances

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- a) Shut down the running database
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- c) Elect a new primary node
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- a) Check what is wasting resources in the database
- b) Restart the database node
- c) Remove some data from the database
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# The culprit

```
select [...] from tokens where tokens.user_id=$1
```

Table "tokens"

Column	Type	Collation	Nullable
token_id	uuid		not null
user_id	uuid		
type	character varying(31)		not null
created_at	timestamp(6) without time zone		
last_auth	timestamp(6) without time zone		
challenge_id	uuid		

[...]

Indexes:

"tokens\_pkey" PRIMARY KEY, btree (token\_id)

"tokens\_challenge\_id\_key" UNIQUE CONSTRAINT, btree (challenge\_id)

## 5 - How can we solve this problem?

- a) Change the query to improve performance
- b) Rearrange the database table structure
- c) Remove some data from the database
- d) Add an index over the user\_id column

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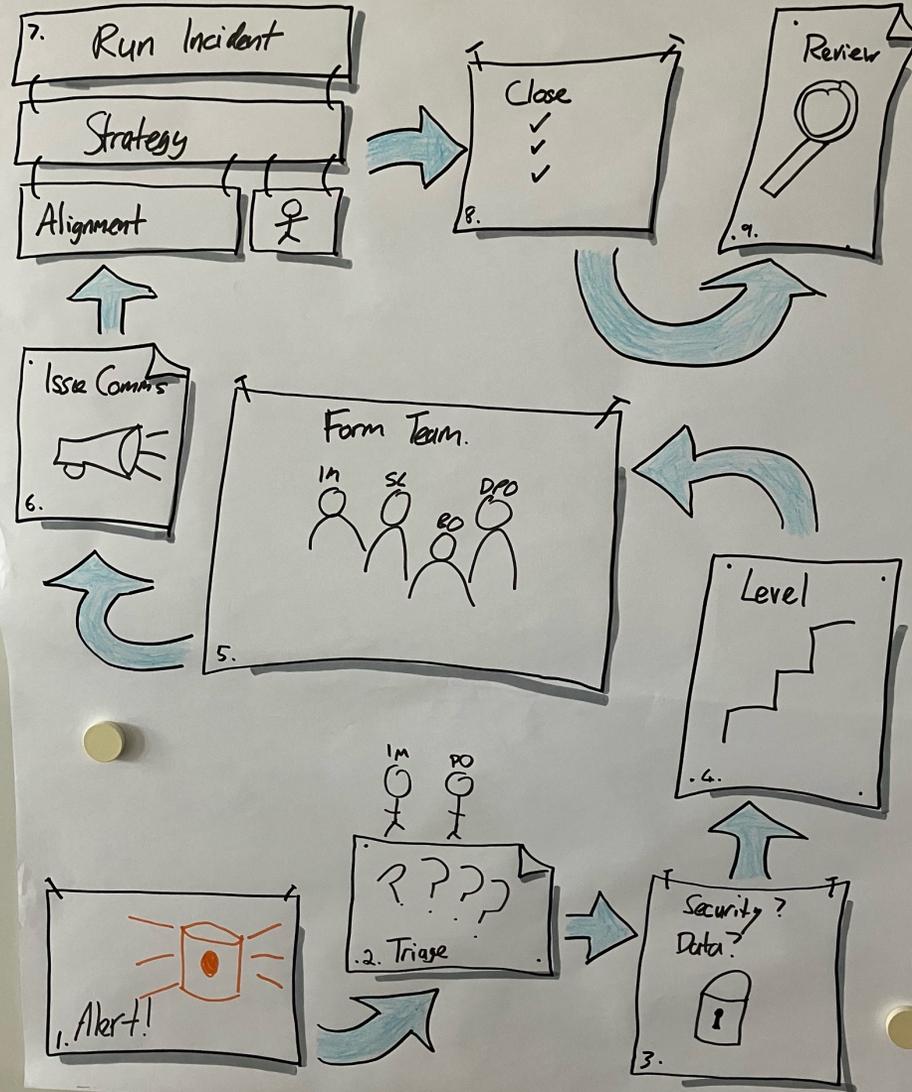
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# Incident!



Switch