

TSD

Services for Sensitive Data

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Workshop goals

Decision support for considering services for sensitive data

- IT
 - Operational requirements
 - Infrastructure to deploy and manage services
- Supporting usage
 - Data management
 - Data governance
- *Software development requirements*
- *Organisational requirements*

Workshop goals

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- *Organisational requirements*

Datacenter

Research Services

Organisational

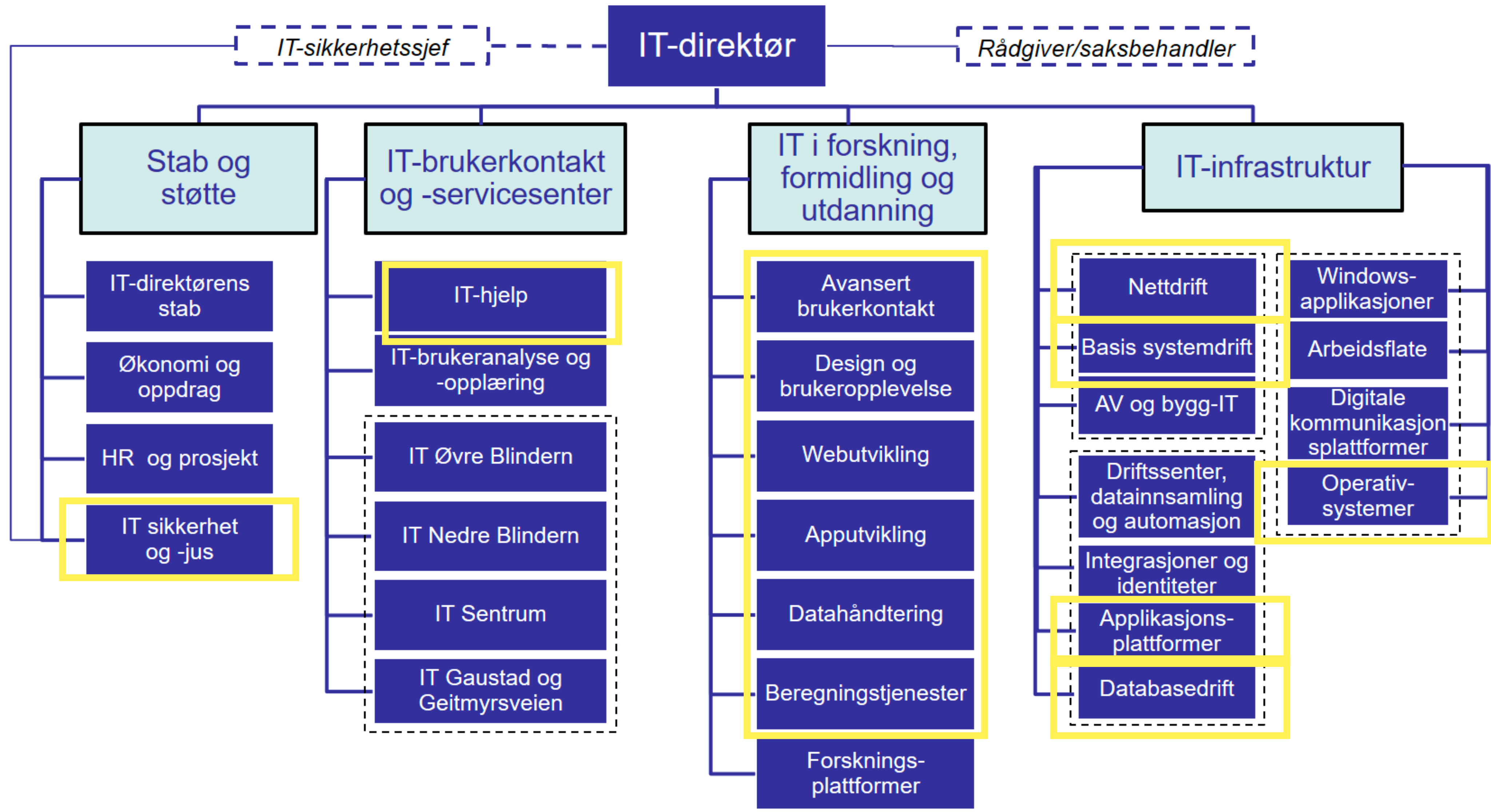
Agenda

- Brief history
- TSD via two use cases
- Generalisation

UiO-IT

- 350 employees
- 4 Divisions
- Research and Education
 - Research Platforms
 - TSD
 - 120 software developers

IT-avdelingen på UiO



TSD

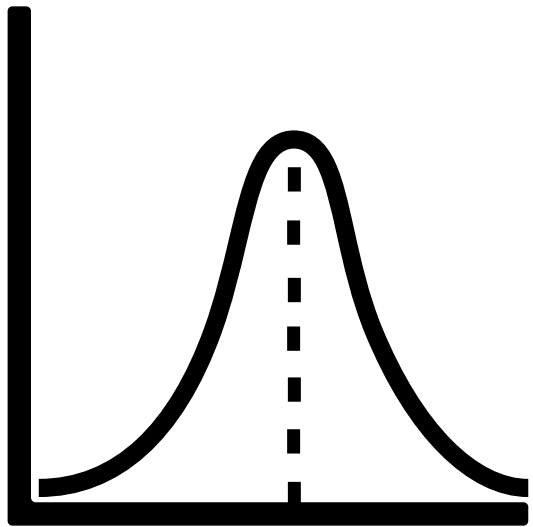
- Special purpose infrastructure for sensitive data, PAAS+
- In production since 2014, continuous development
- 8000+ researchers
- 2000 active research projects (more than one new per working day for 4 years)
- 8 PiB sensitive data
- Daily transfers 1TB+
- 90 institutional customers



Health



Treatment



Data



[Vis](#) [Bygg skjema](#) [?](#) [Kodebok](#) [Innstillinger](#) [TSD](#) **Helsenorge**

Oppgaver

Få oversikt over og legg til oppgaver.

 Logget inn som p1337-leoncd [Logg ut](#)

Send oppgaver

Du kan her lage en oppgave som sendes til respondent gjennom deres innboks på helsenorge.

Mottakere

Skriv inn fødselsnummeret til mottakeren(e)

Send oppgaver

Avbryt

Frist

Dato (DD.MM.YYYY)

31.12.2023



Tid (HH:MM)

19:49



Liste over sendte oppgaver

Oversikt over alle sendte oppgaver, her får du vite når oppgaven er levert og om den er utført.

Søk i sendte oppgaver

Fødselsnummer

Sendt

Status oppgave

Dato levert



14108022532

27/10/2023

Feil ved sending

08127826367

27/10/2023

Utgått 01/11/2023


< Innboks

Vennligst svar på dette skjema

 Slett samtale

Os Oslo Universitetssykehus

Sendt: 24.11.2023 kl. 13:04 ^

 **Oppgave**

Det er viktig at du gjør denne oppgaven. Du vil få påminnelse hvis du ikke har utført den før fristen.

Vennligst svar på dette skjema

Du er henvist til Seksjon for klinisk nevrofysiologi for utredning av plager i hendene. Du har tidligere fått innkallingsbrev til din time. Nå ber vi om at du fyller ut et skjema om deg og dine plager før du kommer til timen. Informasjonen vil kunne benyttes i din utredning og behandling, samt bidra til kvalitetssikring på klinikken. Vi spør også om ditt samtykke til å bruke data fra undersøkelsen til forskning. Det tar ca 20 min å fyller ut skjema.

Status: Aktiv
Svarfrist: 15.12.2023

Ved spørsmål kontakt:

Om du har spørsmål vedrørende skjema, ta kontakt med nevrovit-reg@ous-hf.no

-

Oslo Universitetssykehus

Denne oppgaven utfører du utenfor Helsenorger.

[Gå til skjema](#)

Skjemaet lagrer personinformasjon.
Svarene lagres i Tjenester for sensitive data (TSD). [Les mer](#) ▾

Oslo Universitetssykehus kartlegging før din time ved Nevro- klinikken (3.1) kopi

Obligatoriske felter er merket med stjerne *

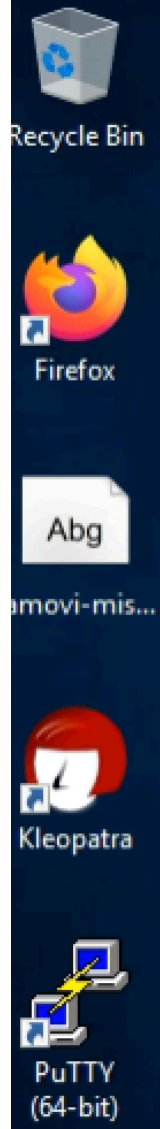


Informasjon til deg som har time på Nevroklinikken

Du har i en egen SMS eller epost fått time til undersøkelse på Oslo universitetssykehus - seksjon for klinisk nevrofysiologi. Nå ber vi om at du fyller ut et skjema om deg og dine plager før du kommer til timen. Informasjonen vil kunne benyttes i din utredning og behandling, samt bidra til kvalitetssikring på klinikken. Vi spør også om din tillatelse til å bruke data fra undersøkelsen til forskning. Det tar ca 20 minutter å fyller ut skjemaet.
Vennlig hilsen Oslo universitetssykehus

Navn *

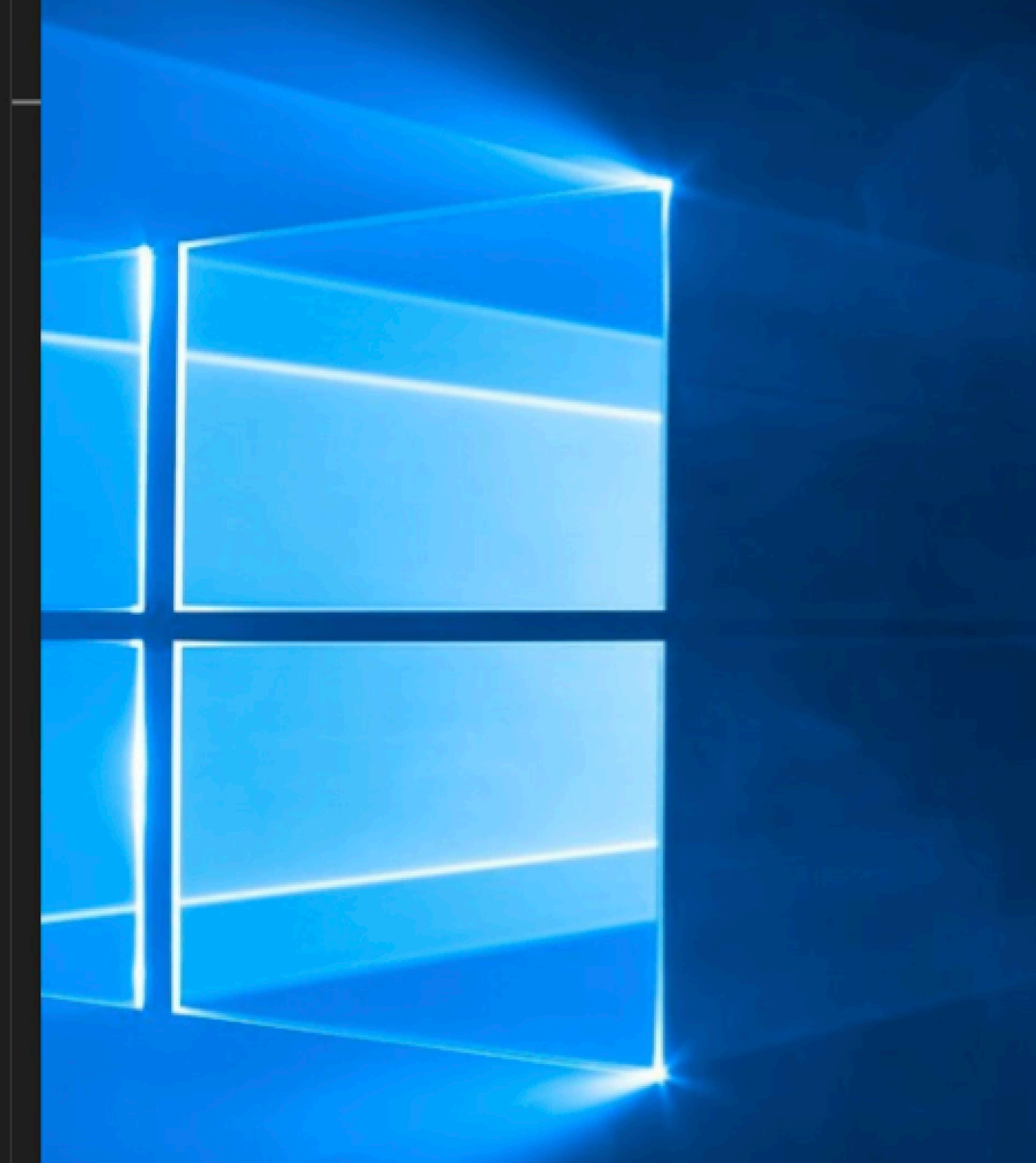
Leon Charl Du Toit

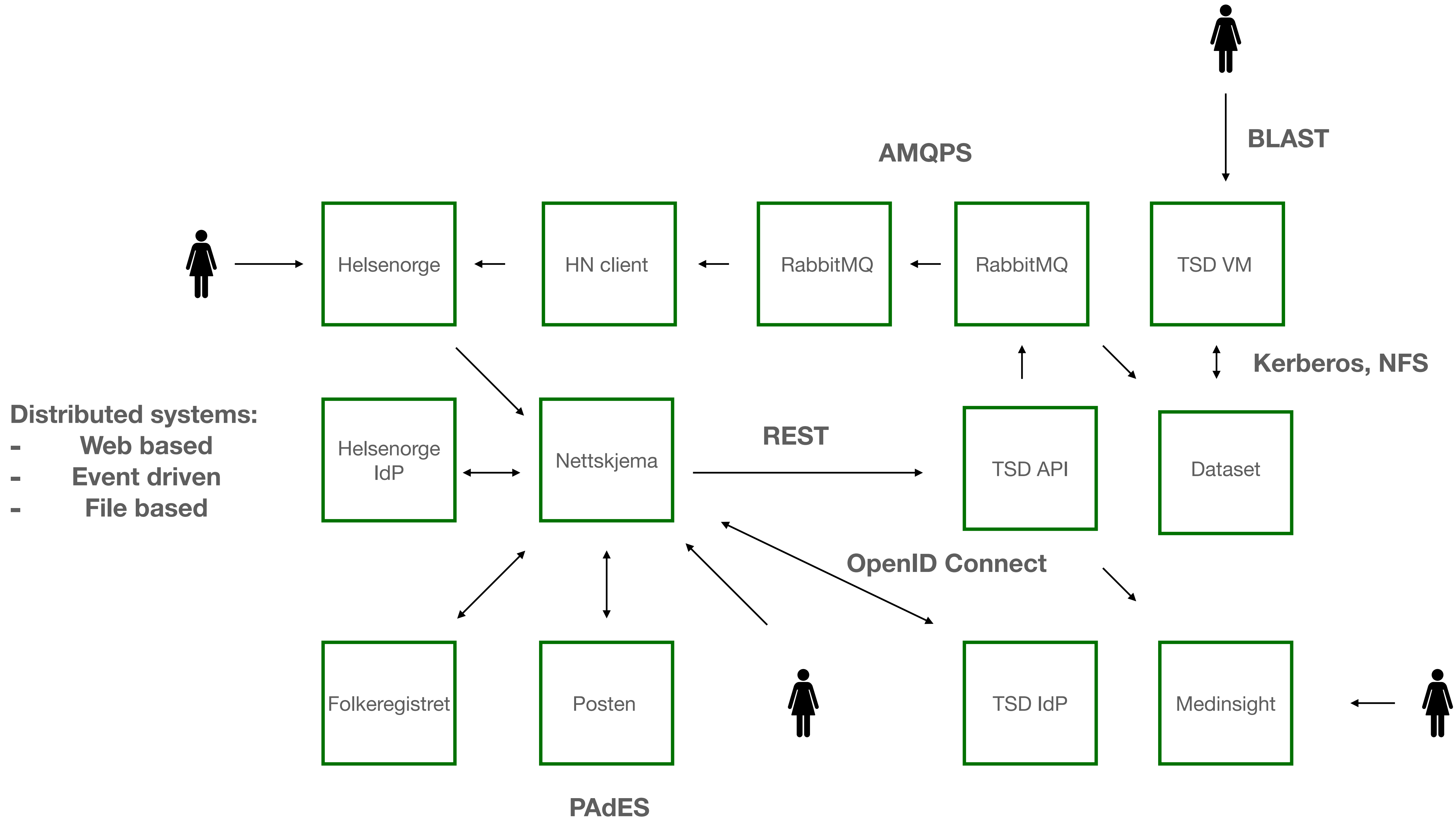


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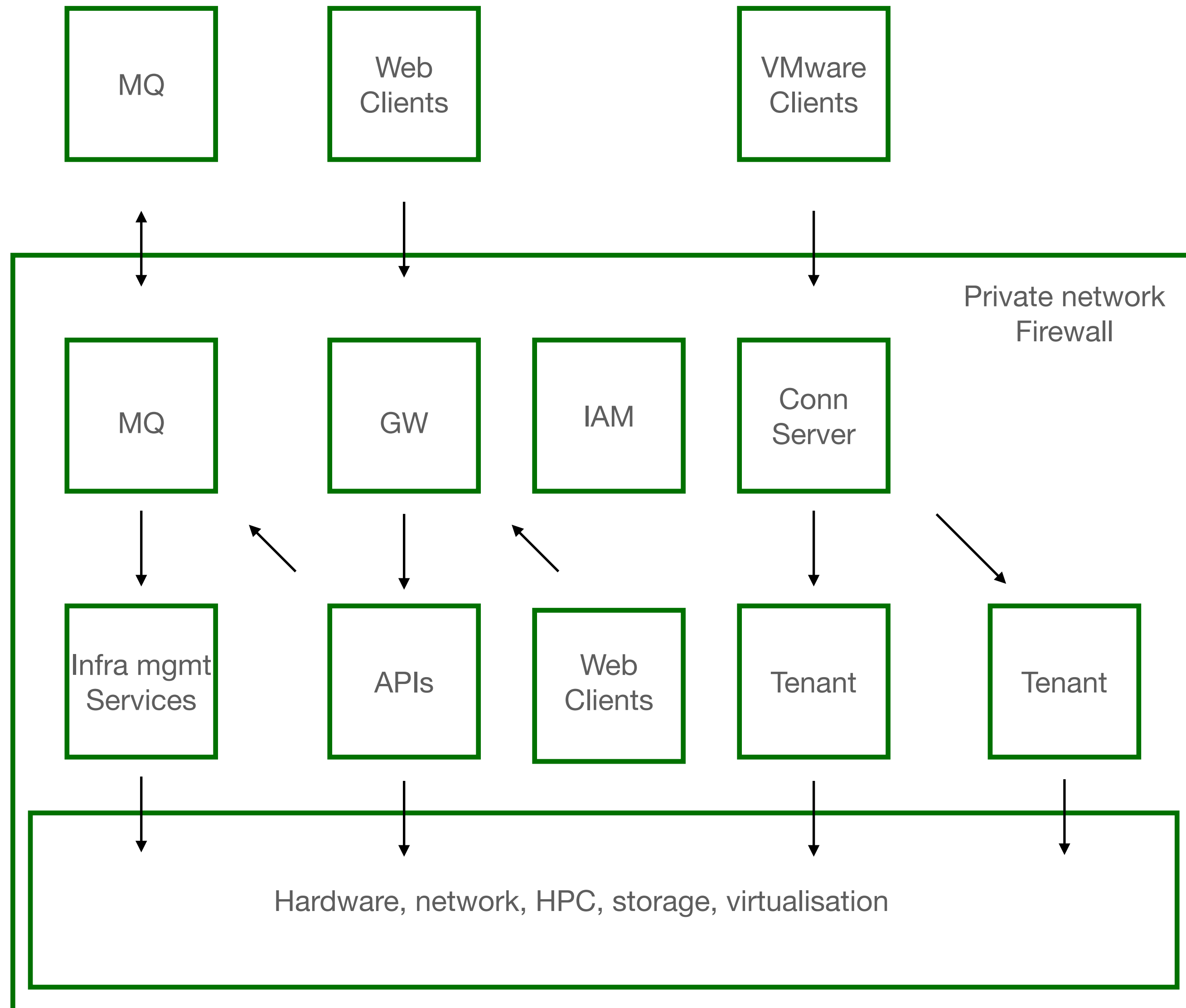
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Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
374293.csv X
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High level architecture



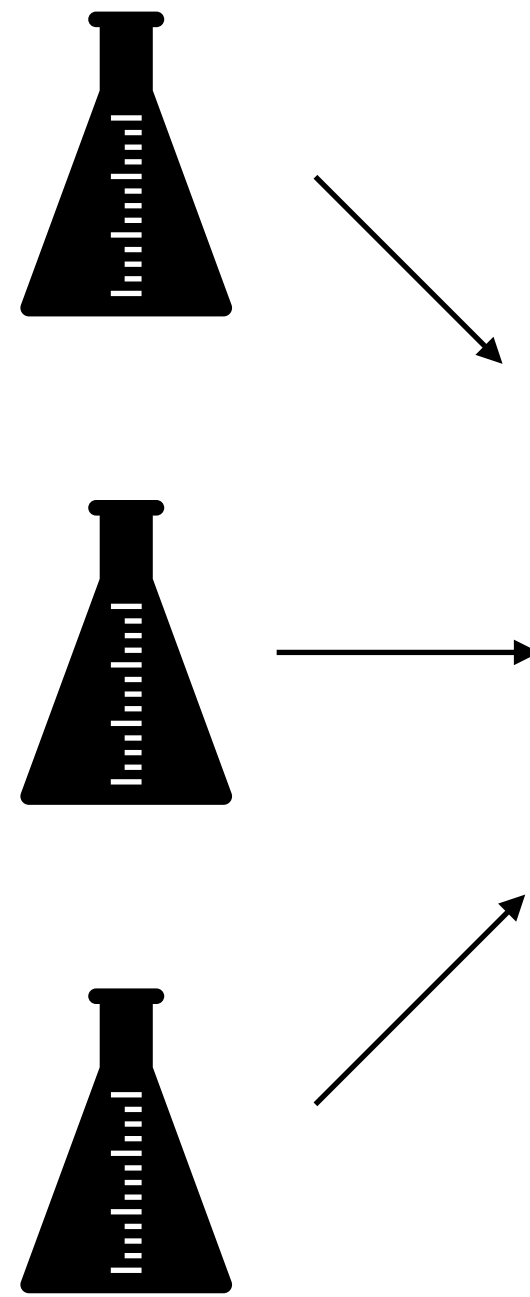


ARTIFICIAL INTELLIGENCE
FOR DEMENTIA PREVENTION



European
Commission |

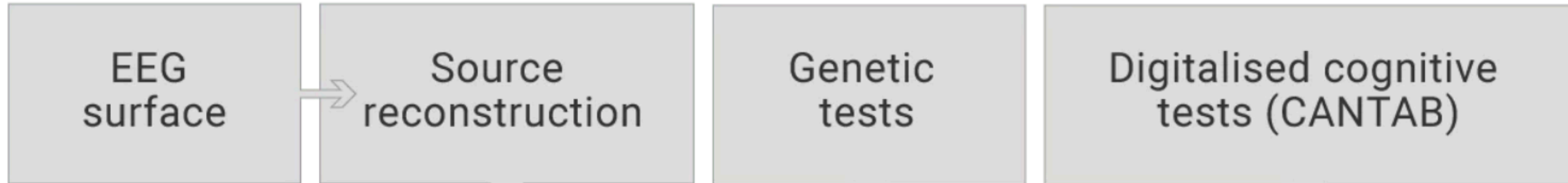
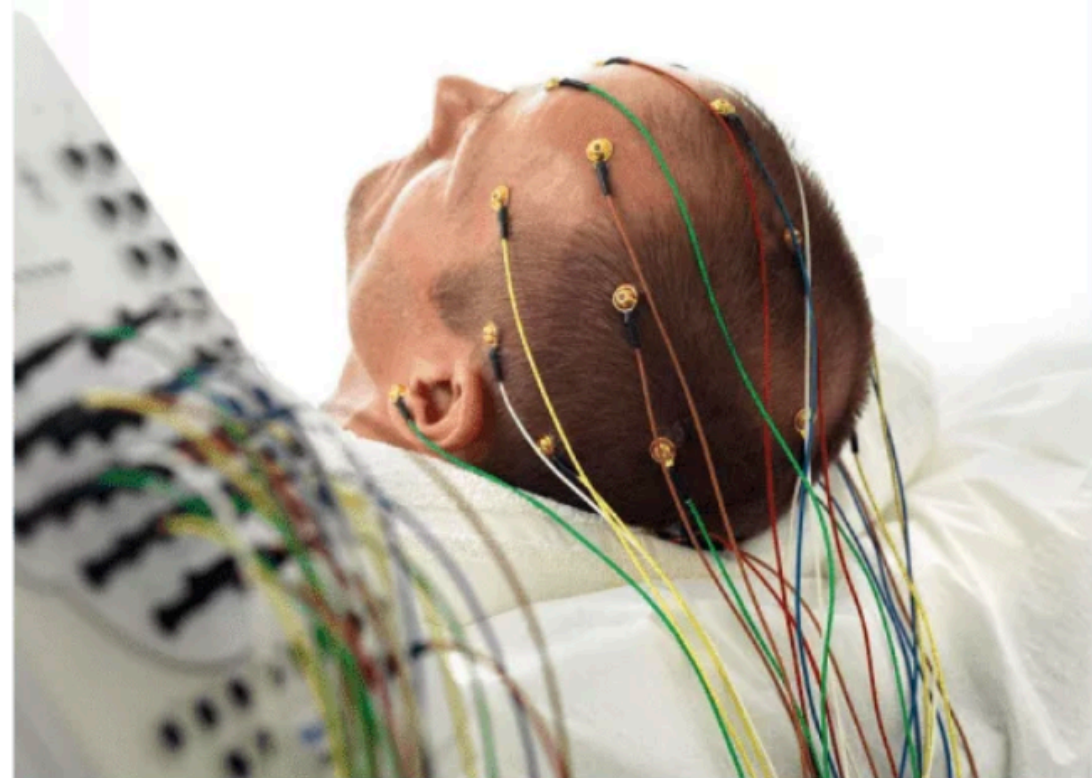
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DATA INPUT

AI-BASED DIAGNOSTICS SUPPORT

OUTCOME



AI-Mind Connector

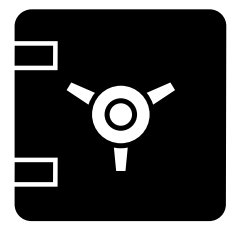
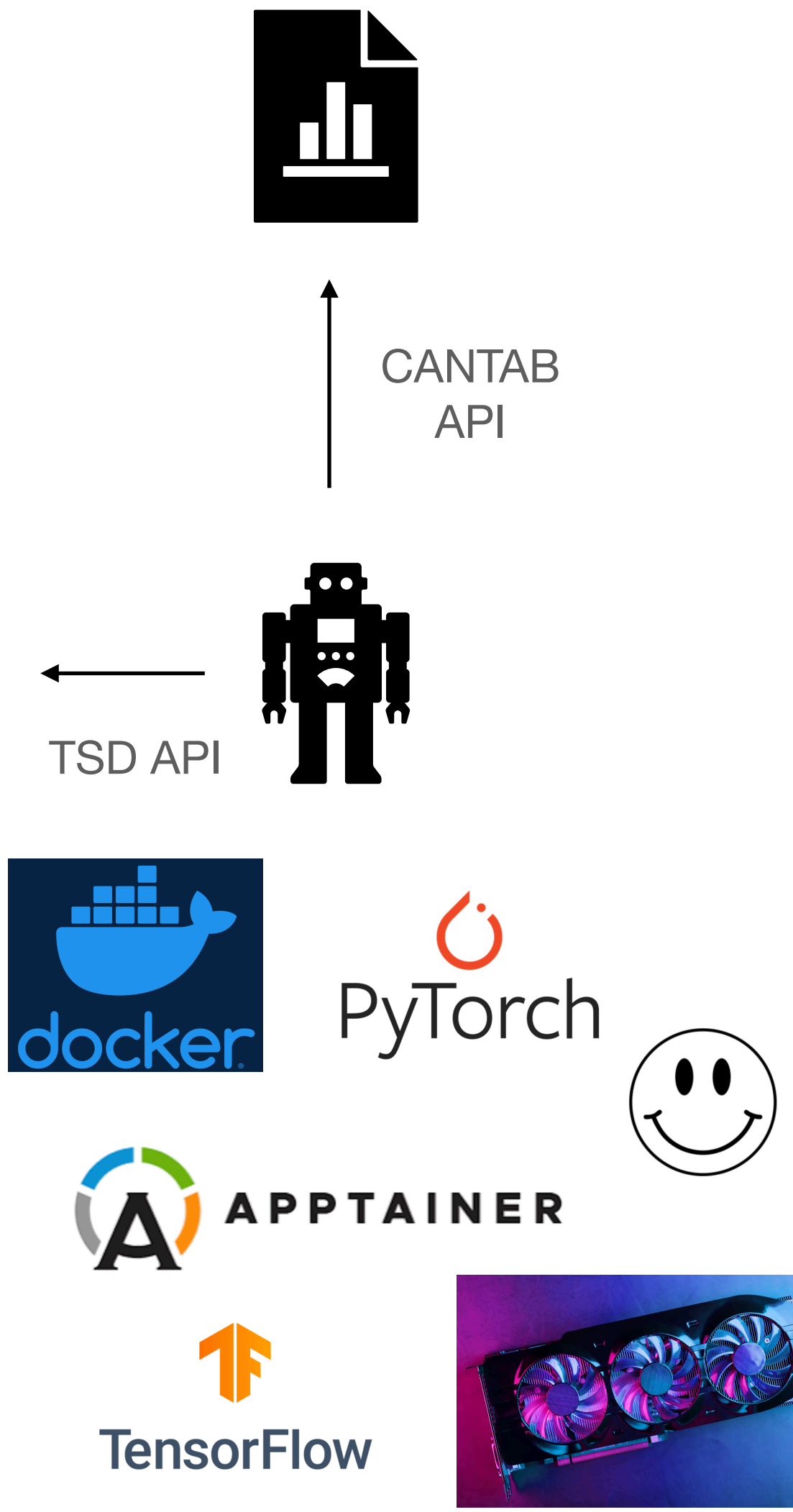
Fully automated screening of functional brain connectivity

AI-Mind Predictor

Assessing risks of developing dementia

Identification of network disturbance

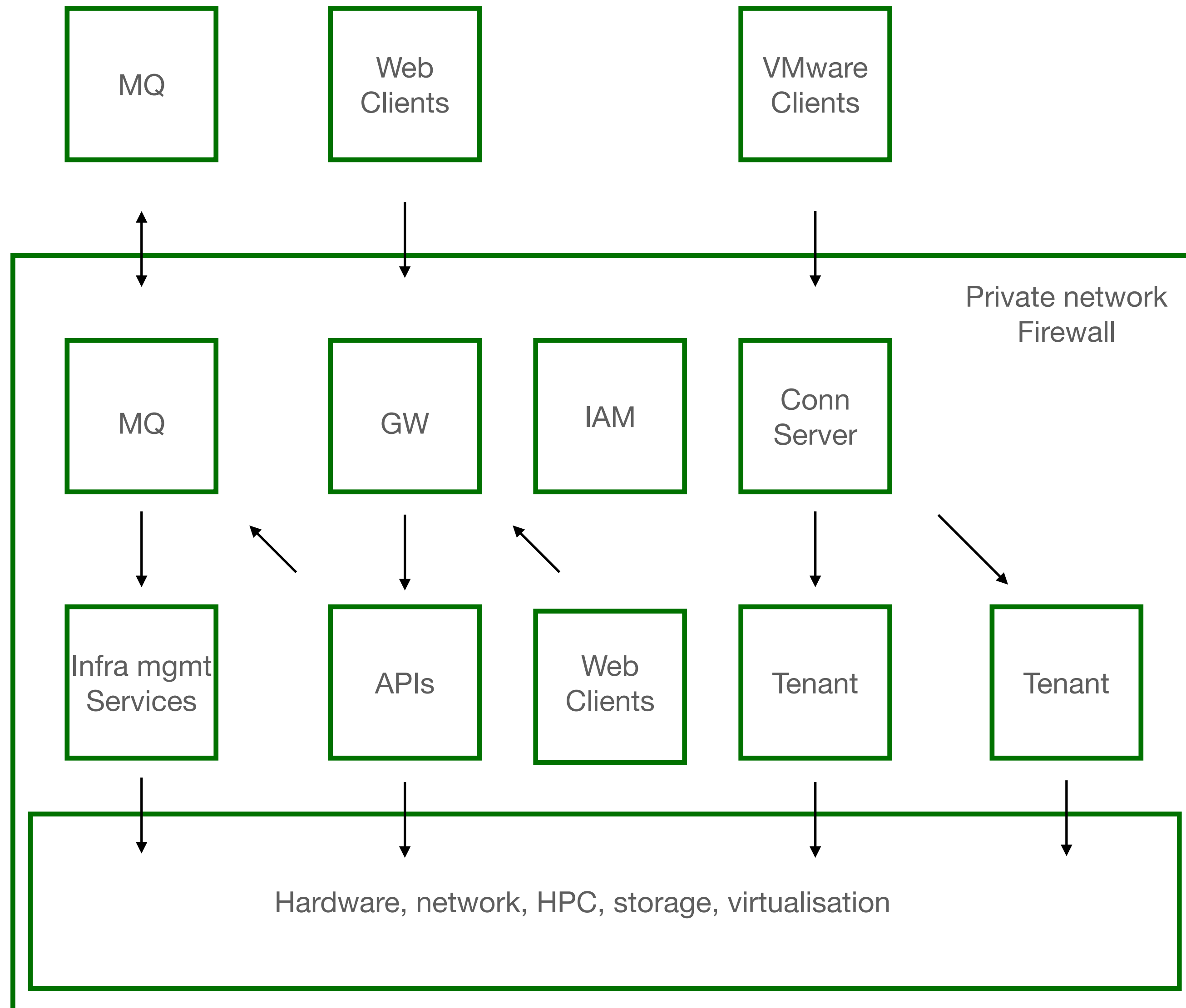
Accurate prediction for clinical decision making



API

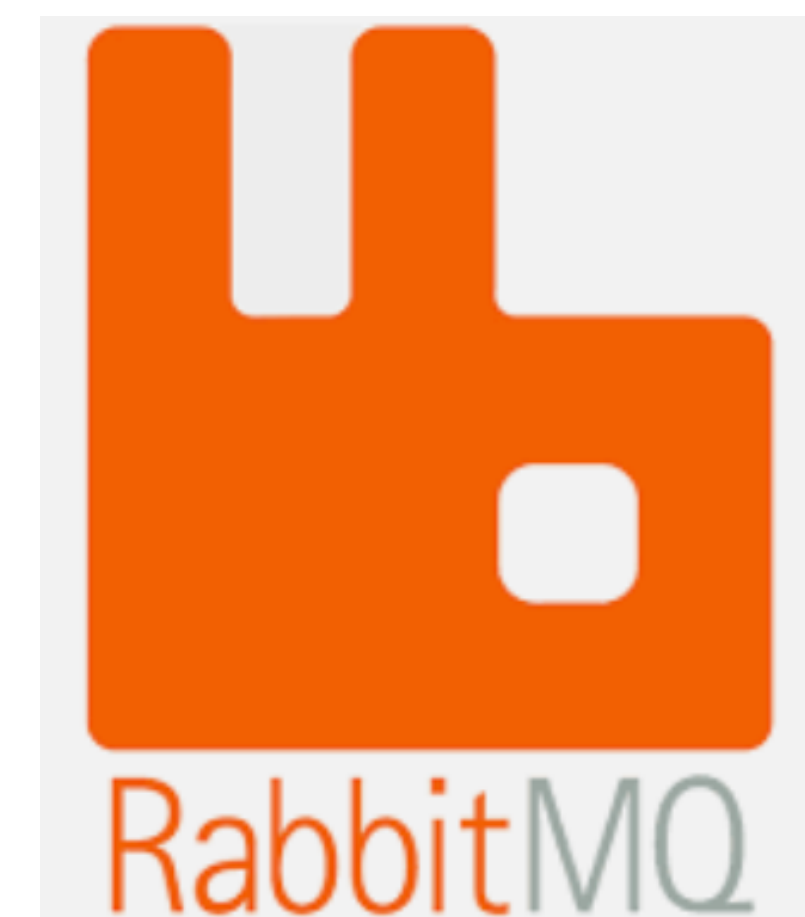


High level architecture





FreeBSD®



TSD Products

Identity	Remote login	Development
Compute	API hosting	Data sharing
Storage	APIs	Consulting
Backup	Access control	/Support
Data collection	Hardware hosting	

Product strategies

- Build a specific solution for a paying customer, refactor, generalise, resell
- Every internal service should be externalisable, APIs for everything
- Do things that do not scale when they have a high impact
 - Software installation
 - Data management
 - Advanced user support

Clients: web, native, apps | software

Web APIs
Message Queue
Infrastructure
Management

Remote login

Research
Services

OS, AD, logging, monitoring
databases, Containers, HPC

Datacenter

Storage, network, compute
virtualisation, firewall, HPC

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**DEV,
Support**

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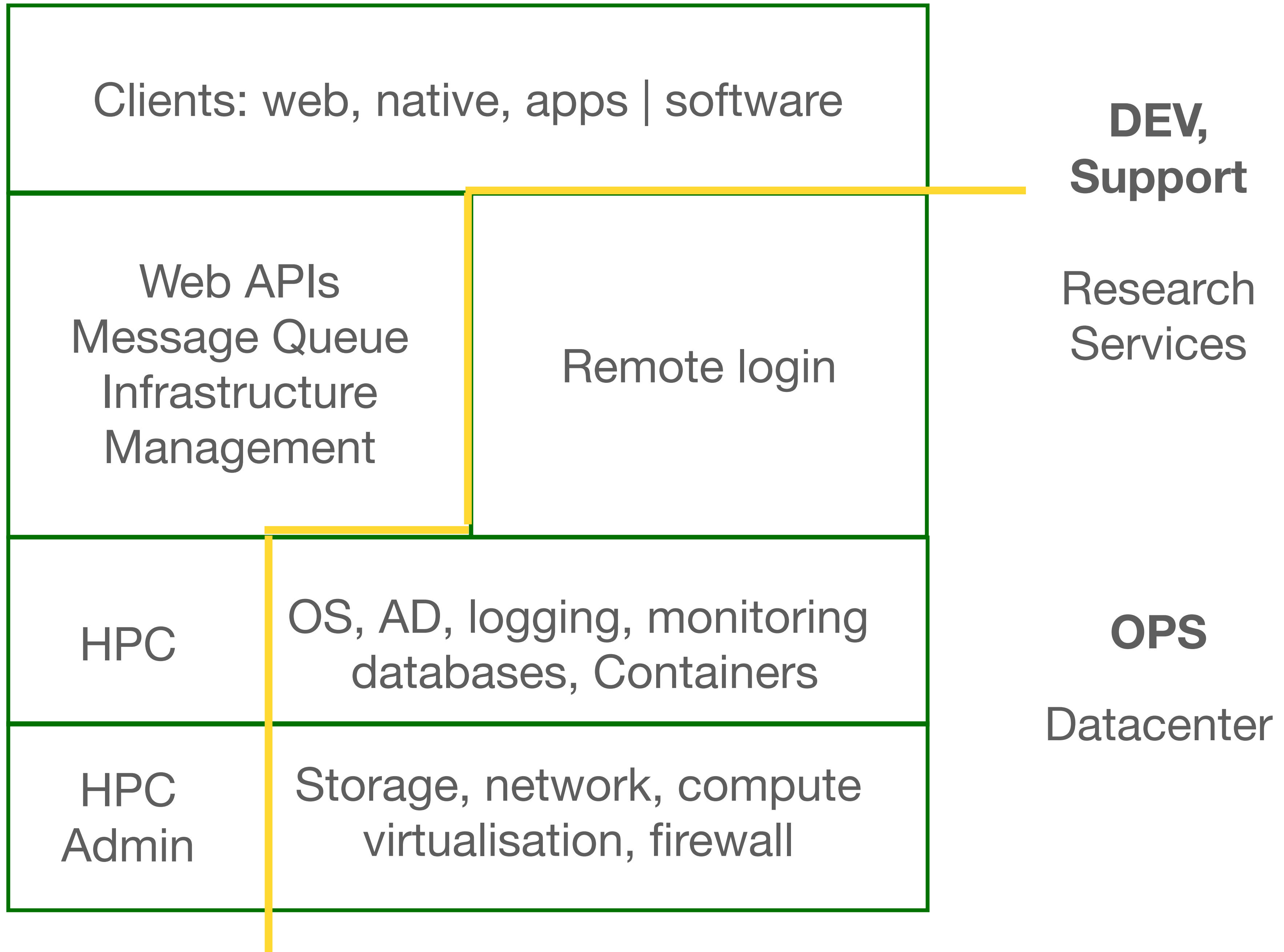
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**DEV,
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Web APIs
Message Queue
Infrastructure
Management

Remote login

Research
Services

HPC

OS, AD, logging, monitoring
databases, Containers

OPS

Datacenter

HPC
Admin

Storage, network, compute
virtualisation, firewall

Summary

Datacenter

- HPC?
- GDPR, Schrems 2, Privacy Shield
- Strategy
- Cost
- Need APIs to decouple services
- Hybrid also possible

Summary

Research services

- Web services and APIs paramount
 - Good user experience requires a mature development team
 - Generic, but extensible
 - Self service for scalability
- Integration architecture - fit into existing ecosystem
- Dynamic, automatic data center resource management

Summary

Organisational

- Need critical mass to attract developers
- Ability to recruit internationally
- User support requires deep knowledge of software installation
- Separate support functions that are close to research from those that focus on platform usage

Thanks

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