

Federated learning for medical image analysis: Fully-integrated solution across Quebec hospitals with the CODA platform

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Mila

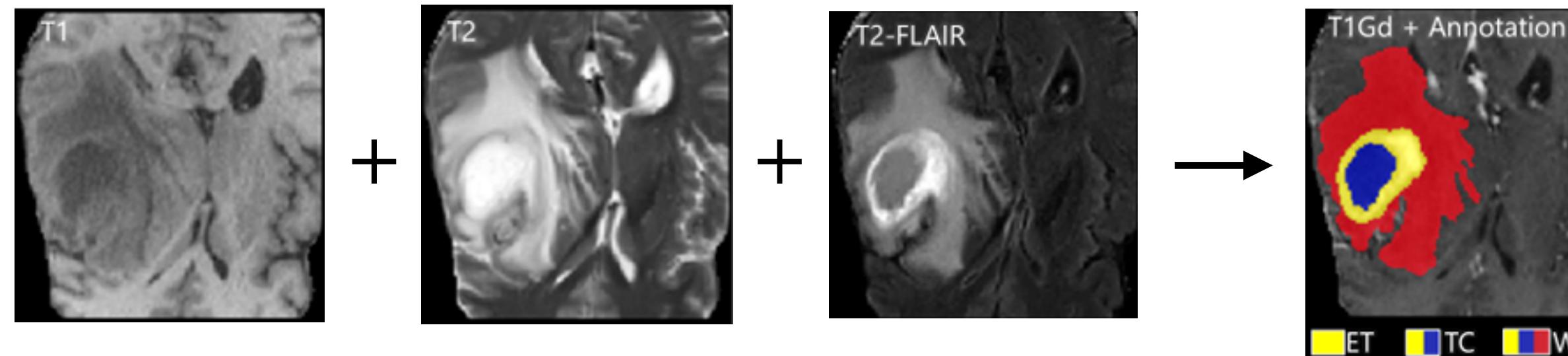
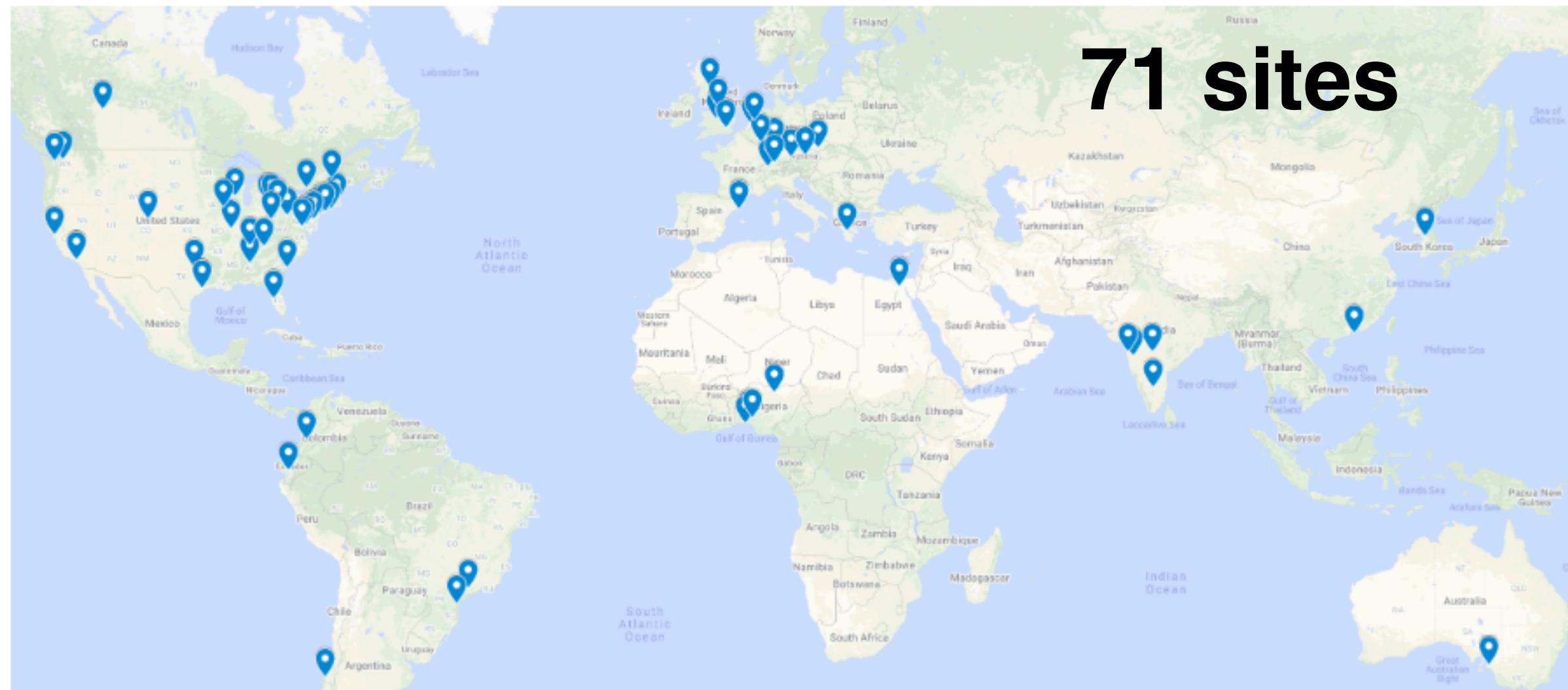
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fonctionnelle

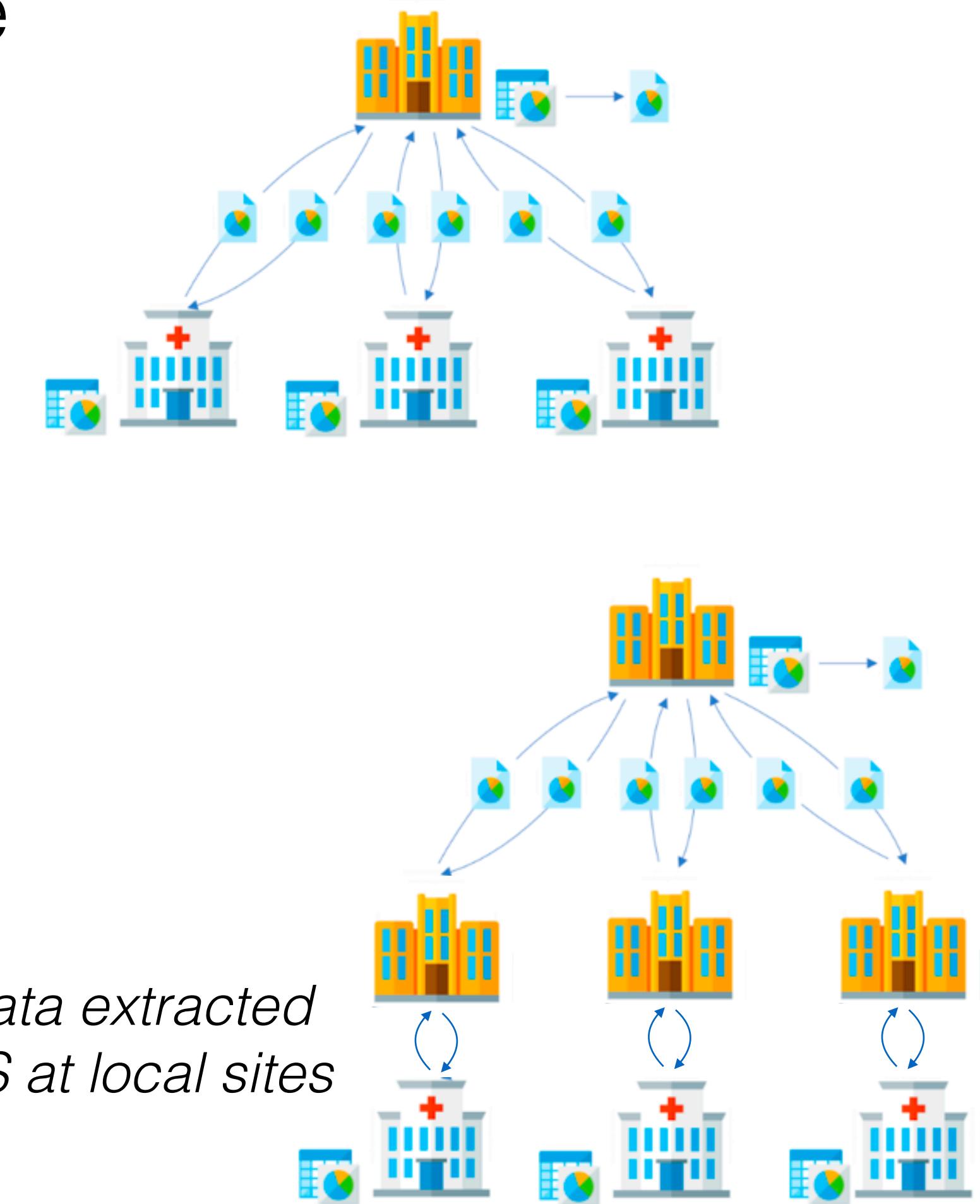
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Federated learning in medical imaging

The Federated Tumor Segmentation (FeTS) initiative



*clinical data extracted
from PACS at local sites*



What is missing?

- FL infrastructure directly connected with the hospital's PACS
- Communication protocols compatible with institutions IT policy (e.g. NVIDIA FLARE, OpenMined solutions are not compatible)
- Standardized clinical and imaging protocols and metadata
- Training/Inference APIs easily deployable to all sites
- End-to-end solution compatible with jurisdiction and accepted by local ethics review board of all participating hospitals

CODA (www.coda-platform.com/)

Analyse **CO**llaborative des **D**onnées pour **A**méliorer les soins cliniques chez les patients



Hôpital général juif
Jewish General Hospital



McGill University
Health Centre



HÔPITAL DU SACRÉ-CŒUR
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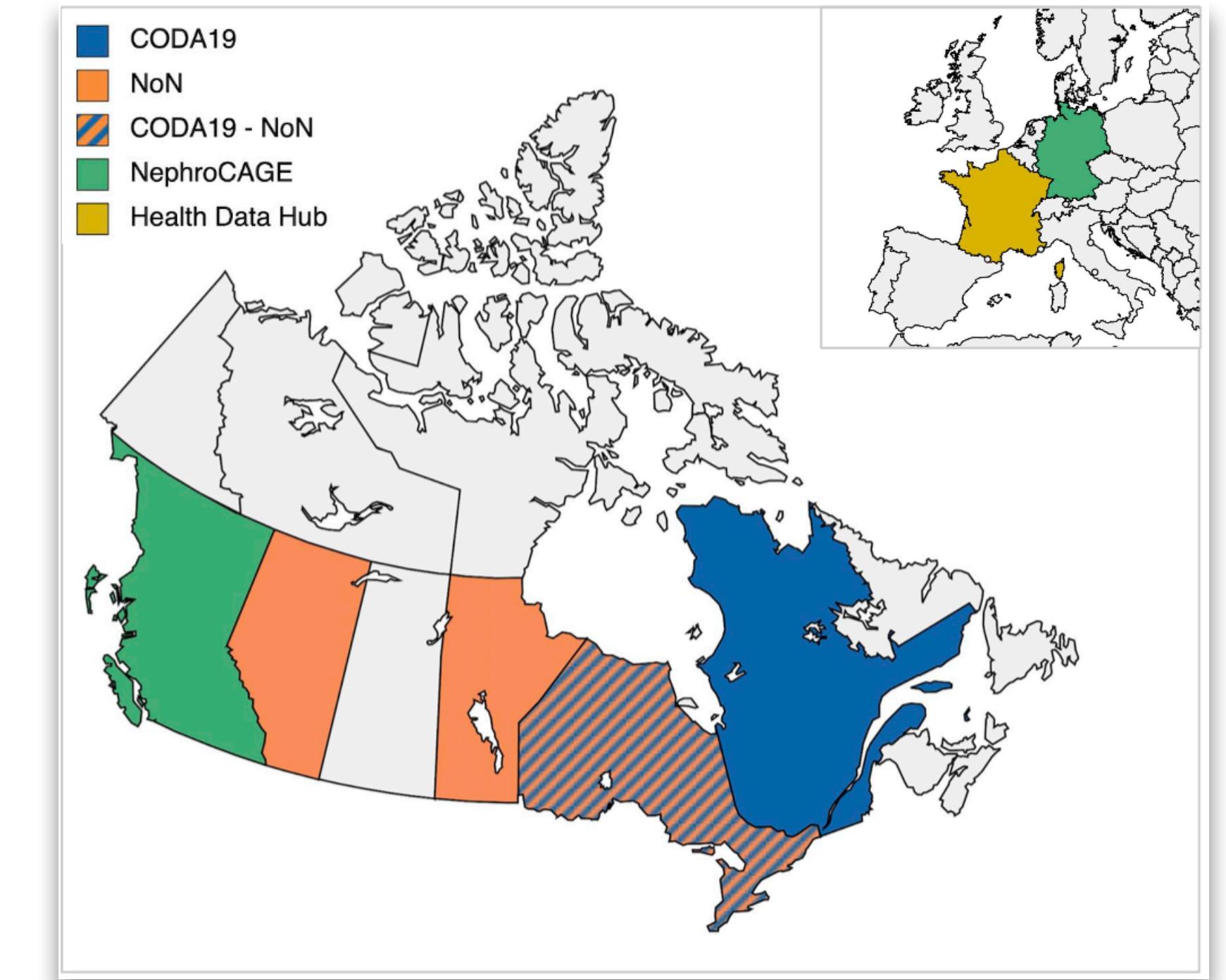


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universitaire mère-enfant

Centre intégré
universitaire de santé
et de services sociaux
de l'Estrie - Centre
hospitalier universitaire
de Sherbrooke



CODA research group



Project Manager

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Full list of contributors:

<https://github.com/coda-platform>



CODA: An Open-Source Platform for Privacy-Preserving Analysis of Distributed Biomedical Data

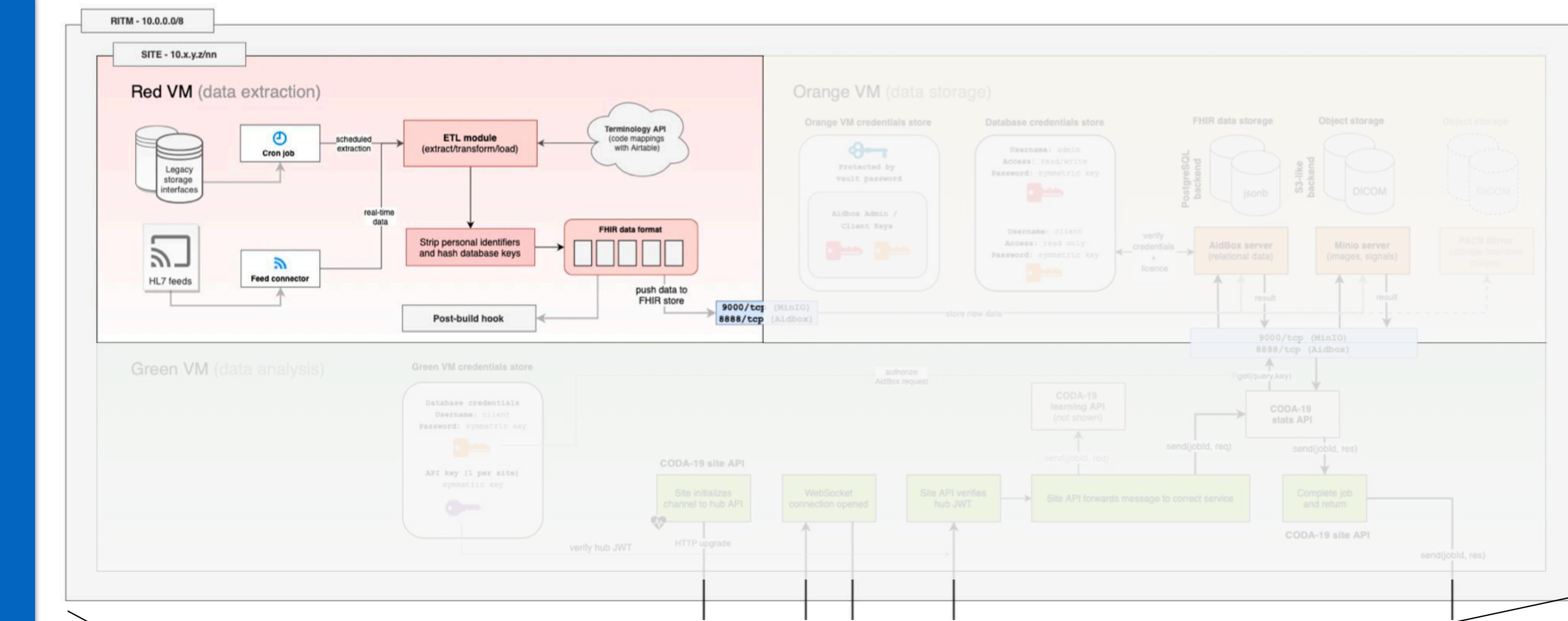


V A L E R I A

FROM DATA TO KNOWLEDGE



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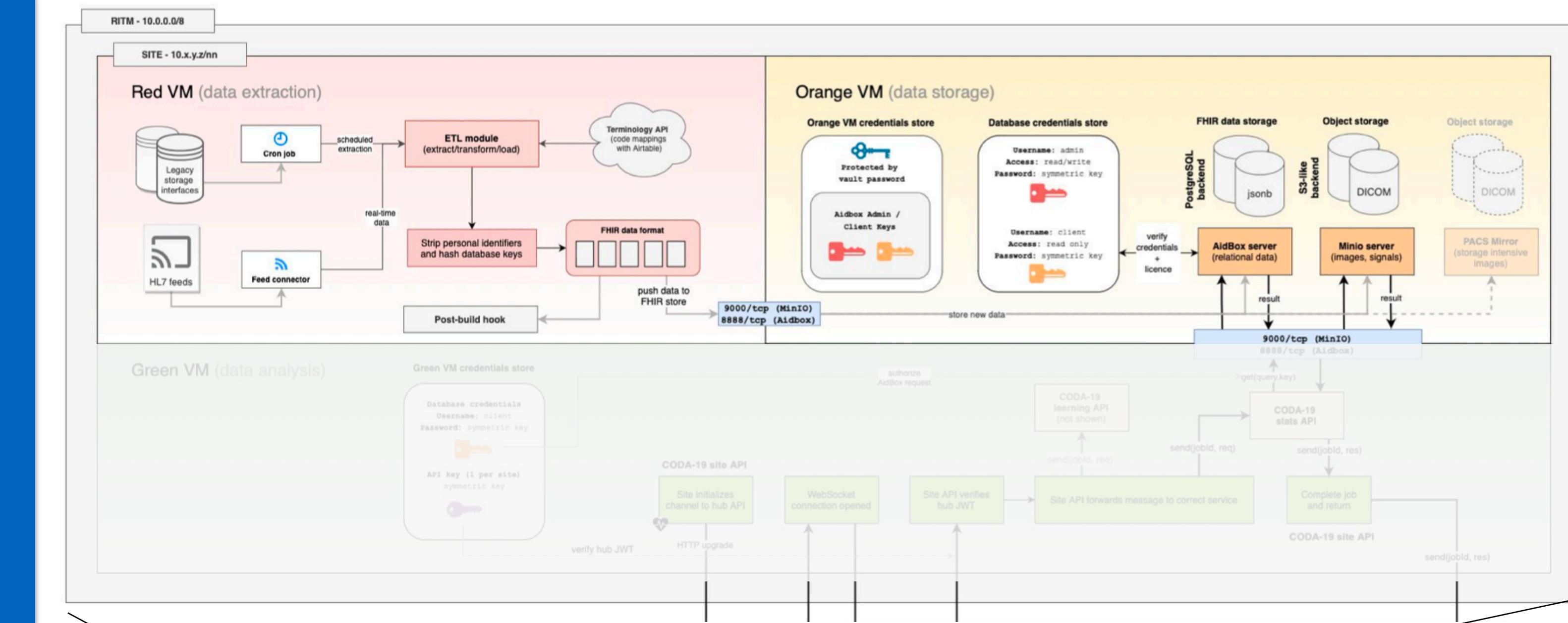


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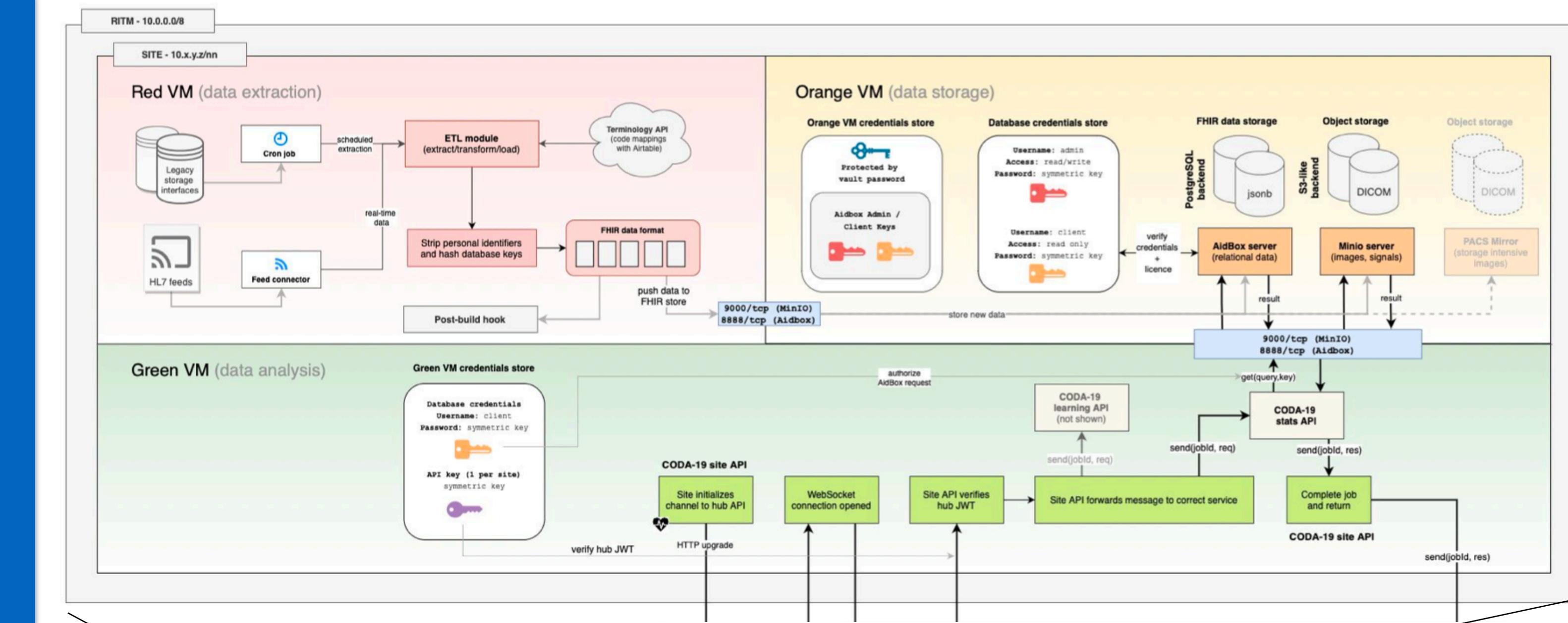


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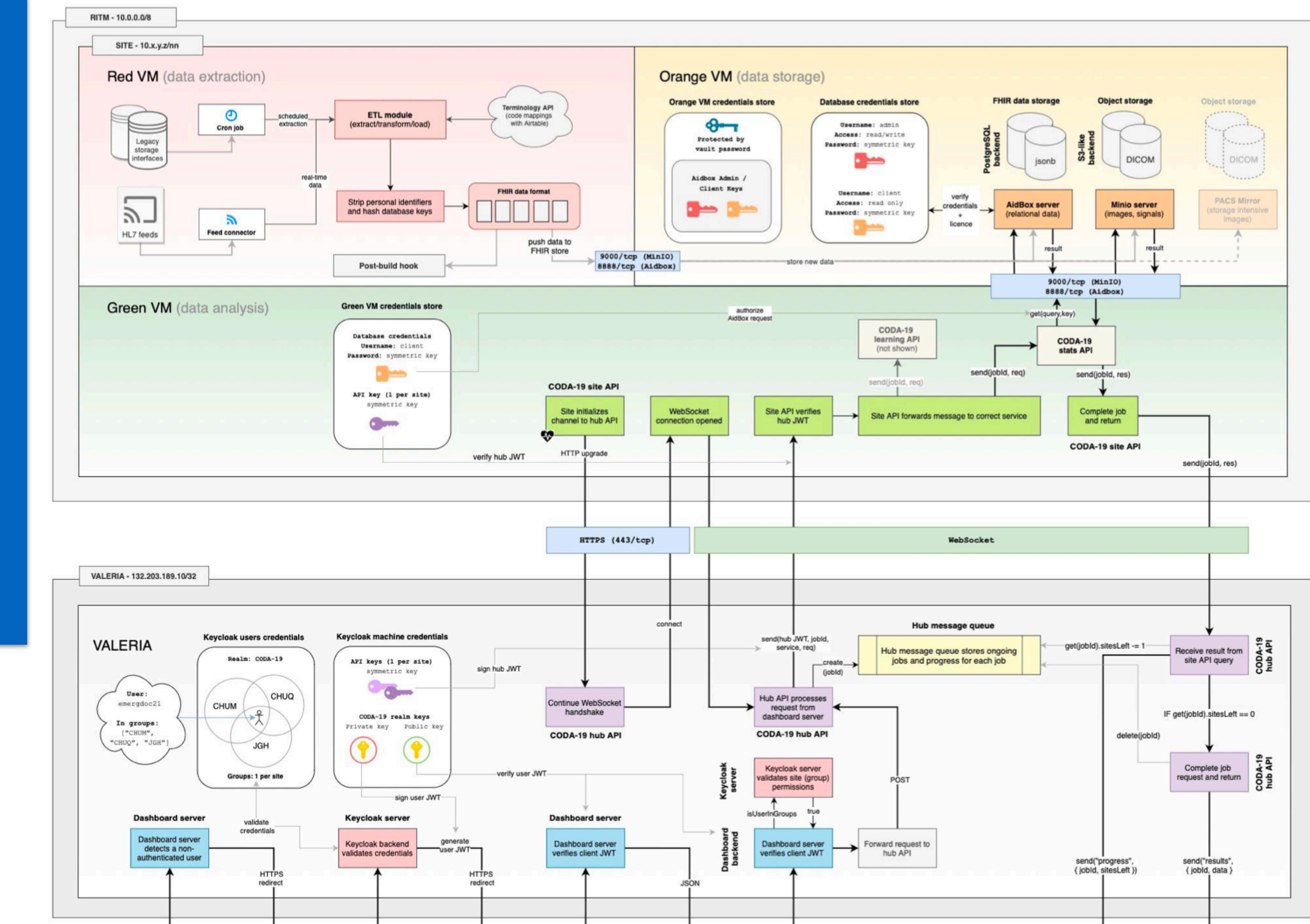


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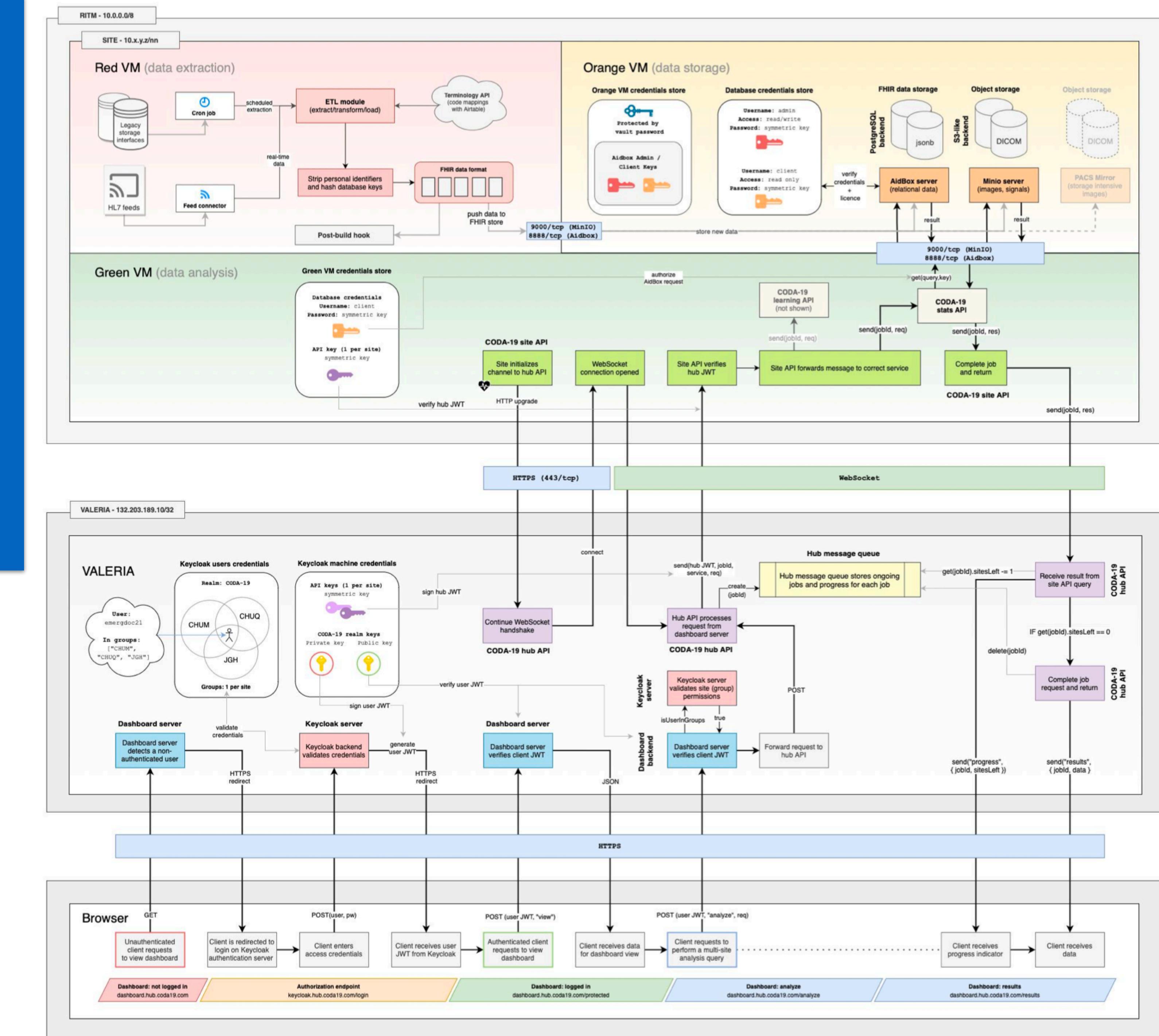


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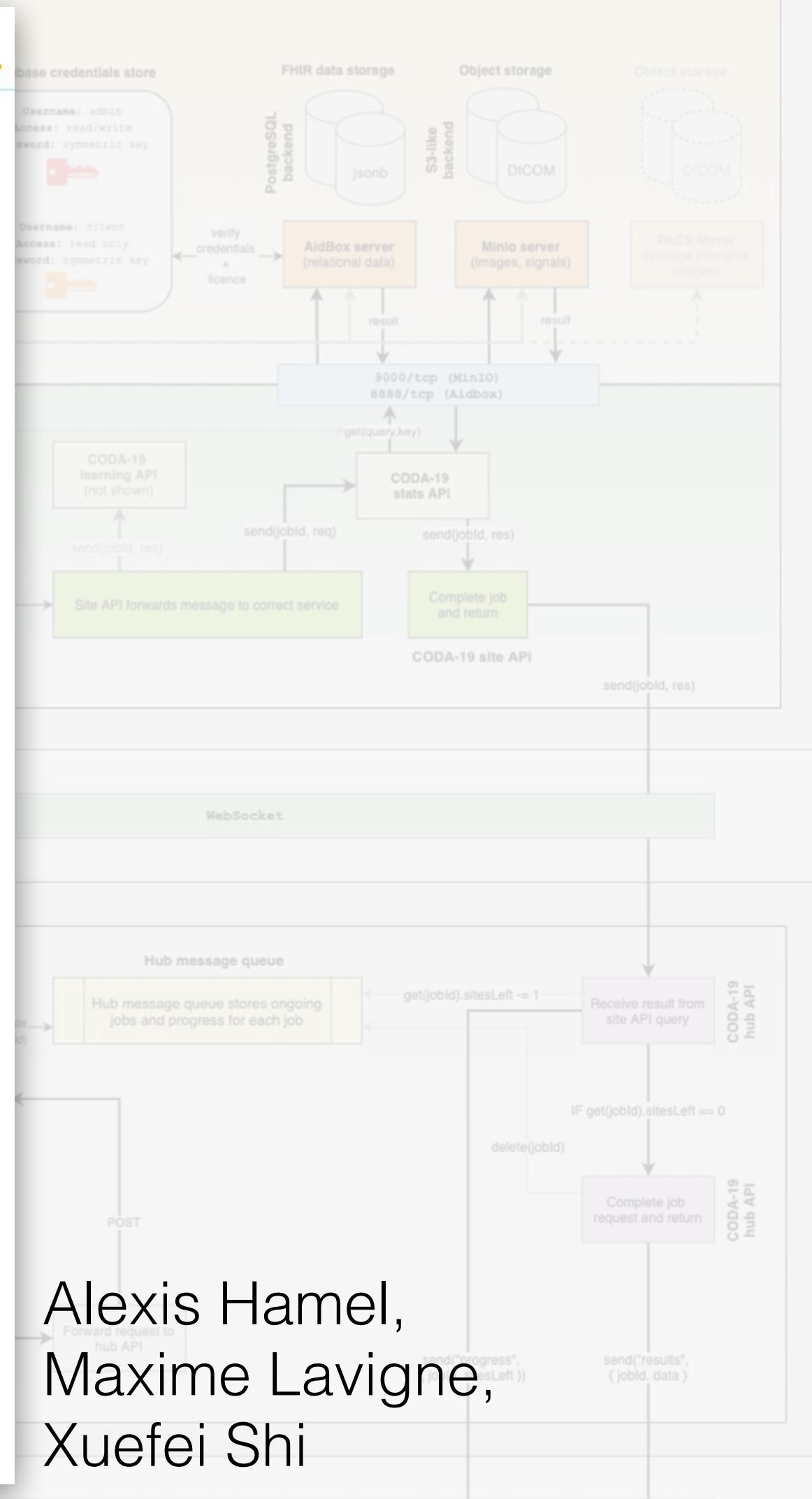
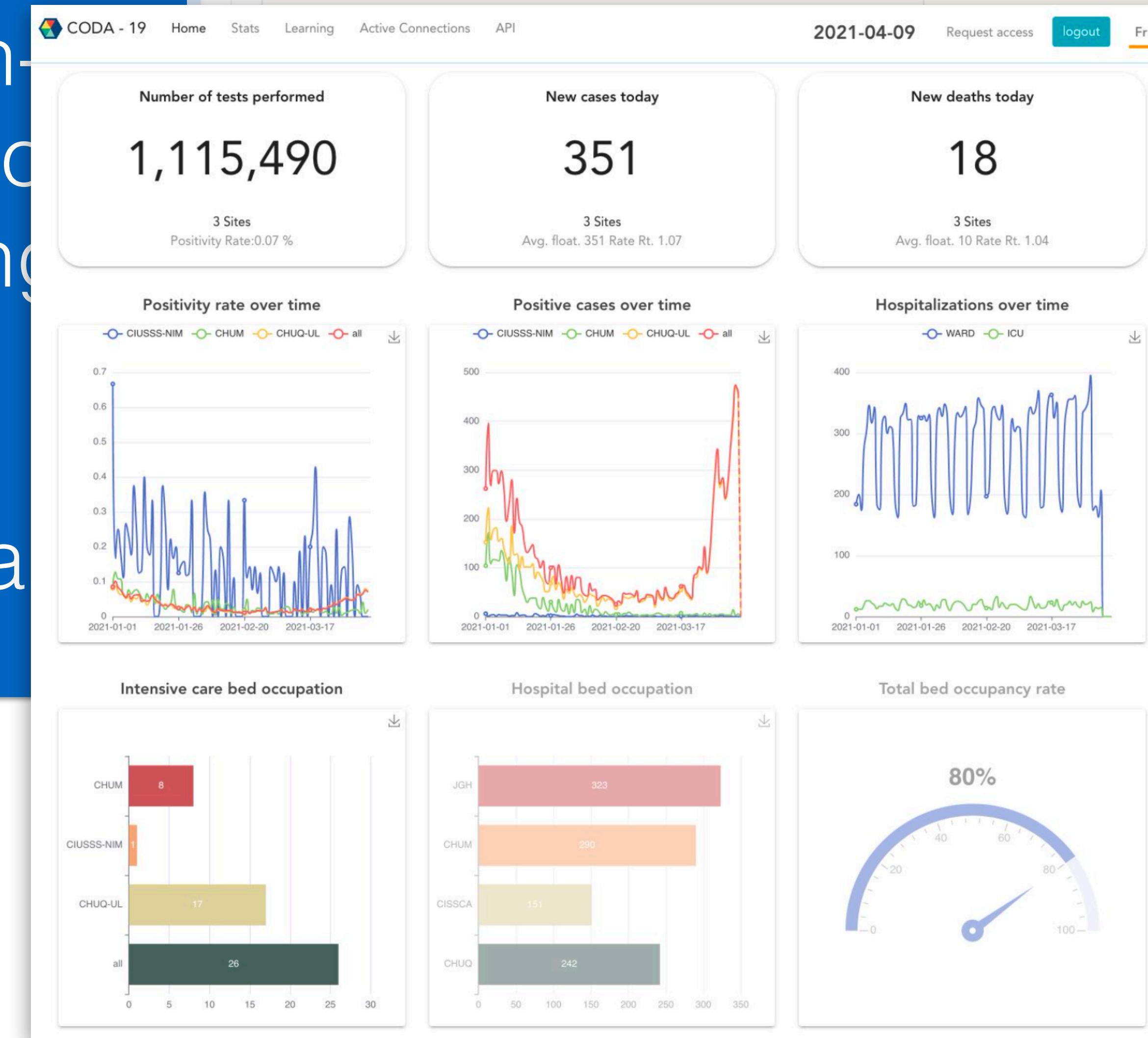




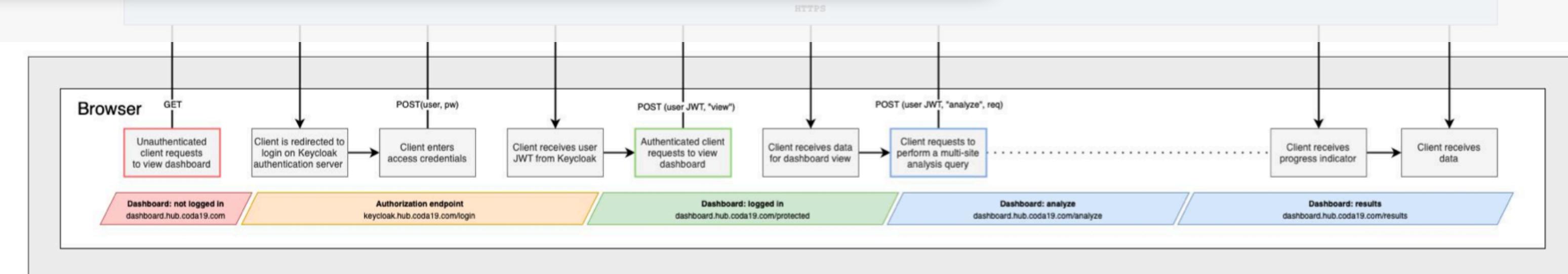
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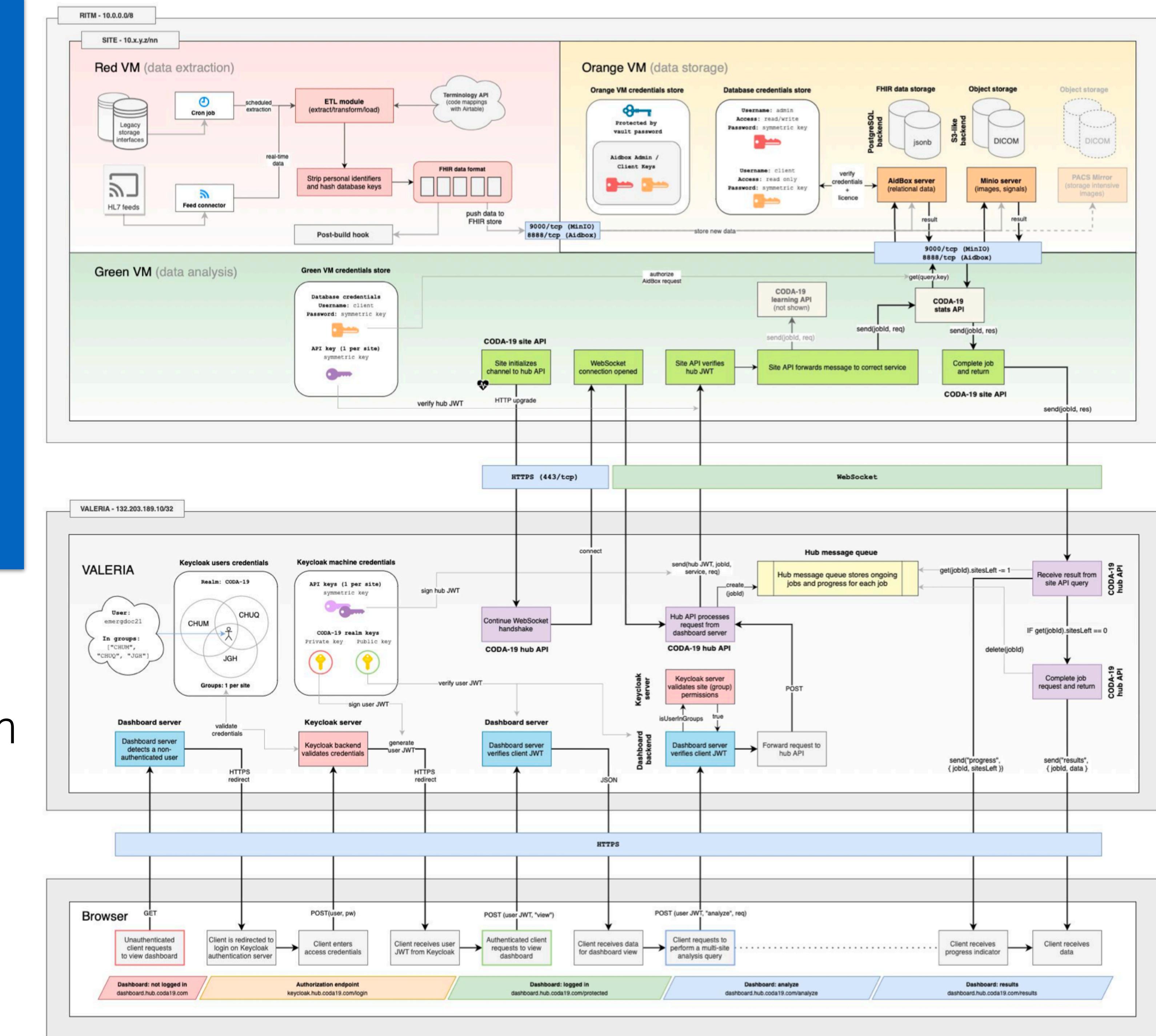


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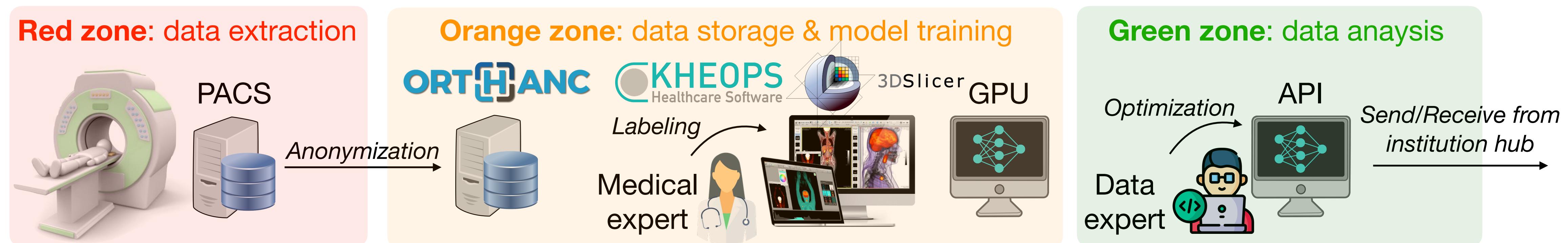
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Current developments (CODA)

- Set up template ethics documents (consent form, data sharing agreement, etc.) compatible with the ethics committee of each participating site
- Support imaging (MRI, CTs, etc.)
- Learning API for imaging data



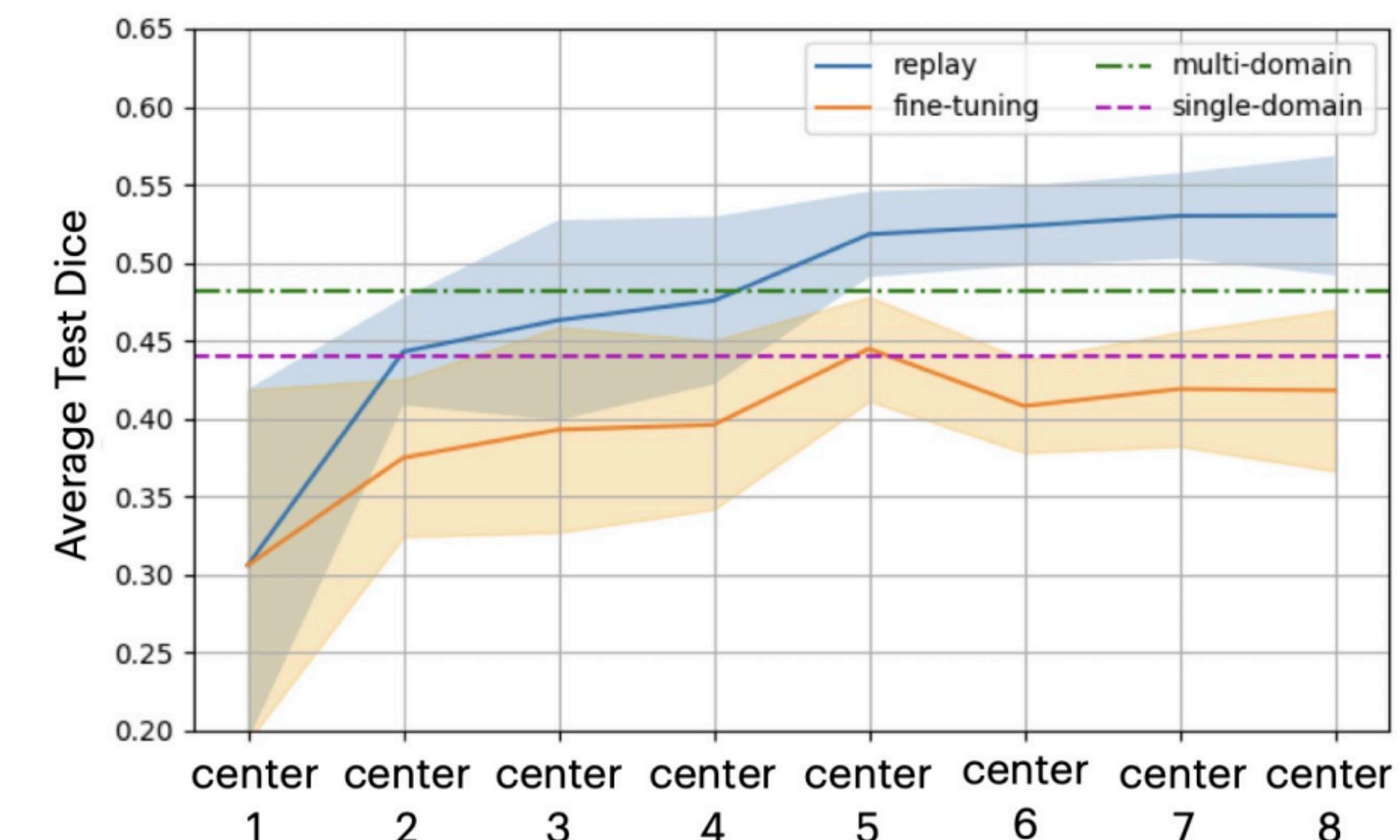
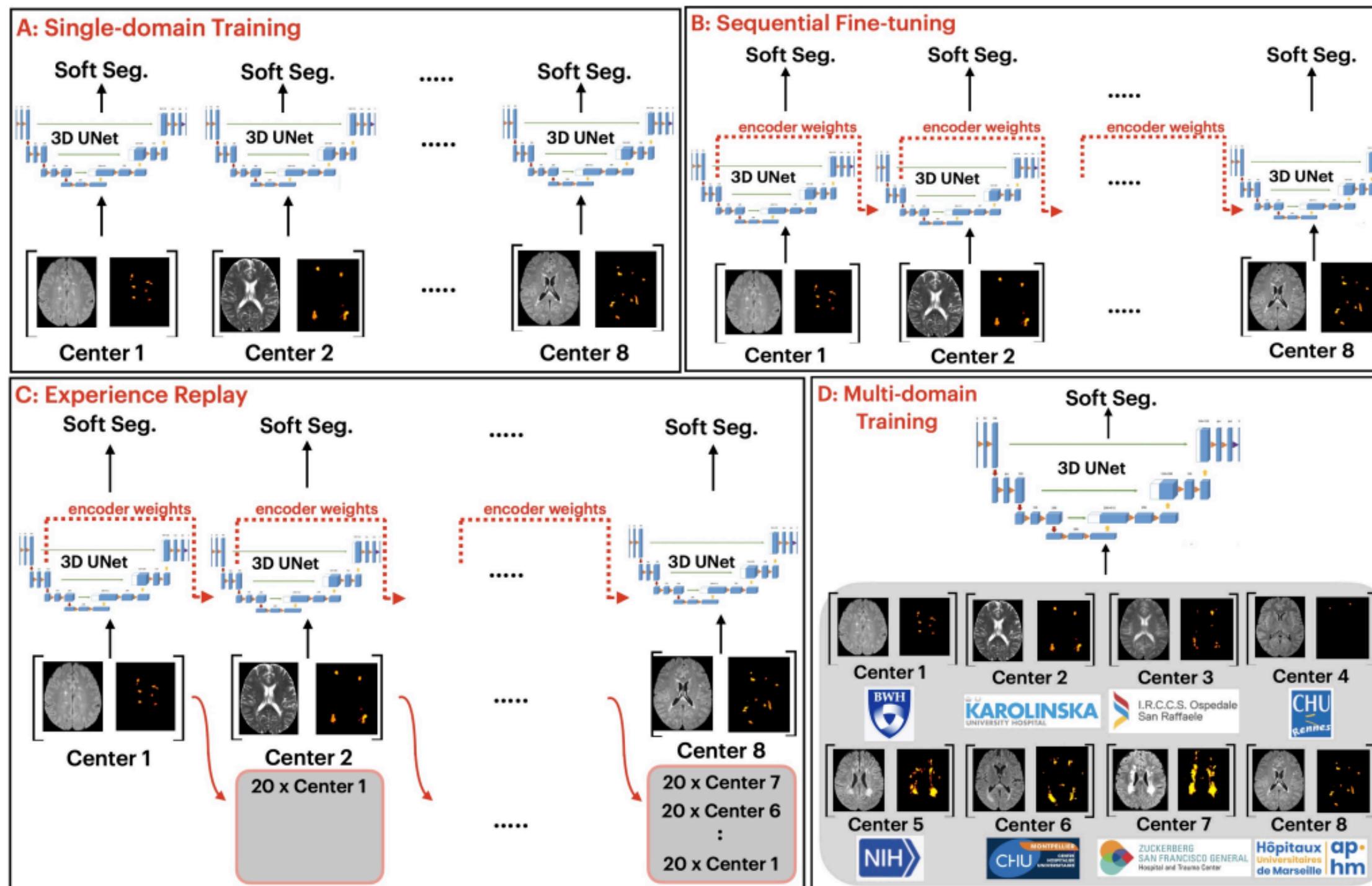
More info ➡ <https://paradim.science/>

Segmentation of Multiple Sclerosis Lesions across Hospitals: Learn Continually or Train from Scratch?

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