

Antagonist

(anomaly tagging on historical data)

<https://github.com/vriccobene/antagonist>

IETF 120 - Hackathon
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<https://datatracker.ietf.org/doc/draft-netana-nmop-network-anomaly-semantic>
<https://datatracker.ietf.org/doc/draft-netana-nmop-network-anomaly-lifecycle>

Why do we need Antagonist?

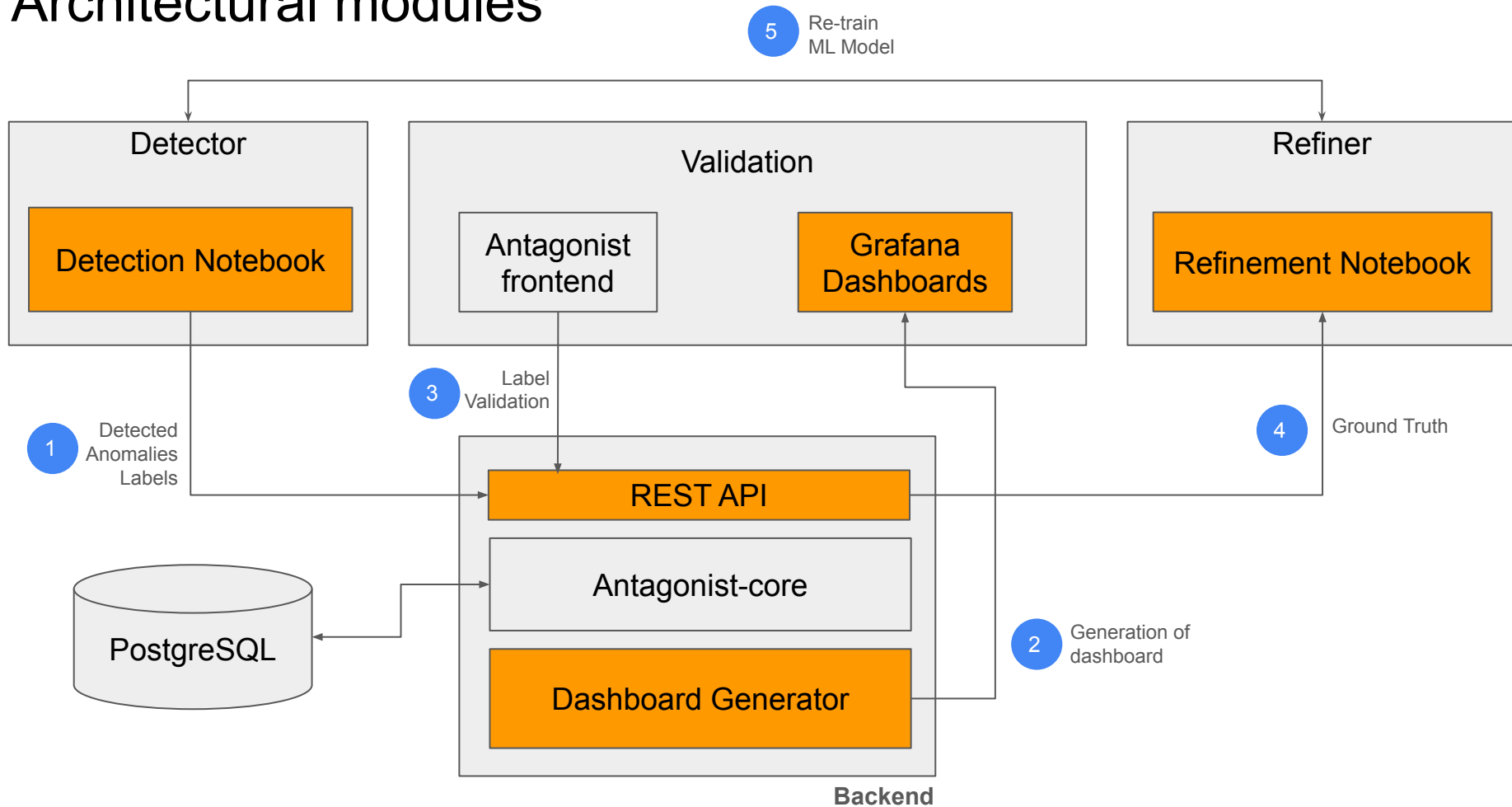
- Antagonist is a **Label Store** for Network Anomaly Detectors
- Network Anomaly Detection is the art of understanding when something is not working as expected in the network
 - It is an **iterative process** that requires **continuous improvement**
 - To improve the process it is necessary to enable cooperation between multiple teams, operators, providers and vendors need to interoperate.

→ **A standardized format for information exchange is key**
- Antagonist supports the following use cases:
 - **Exchange of anomaly detection labels** between different operators or teams
 - **Persistency** of anomaly detection labels generated by ML models
 - **Enable network engineers to easily validate** the result of the detection and provide feedback to the model (active learning)
 - **Provisioning of labels to ML** for dynamic retraining

Hackathon Plan

- ✓ Validation with real operational data (Cloud domain)
- ✓ Validation with a ML-based Network Anomaly Detector (Autoencoder)
- ✓ Validate support for Re-training of ML-based models
- ✓ Add partial support for Metadata Filtering and search
- ✓ Fix some deployment and integration bugs

Architectural modules



Generation of Dashboards



The YANG model contains all the information that we need to automatically generate dashboards

Next Steps

- Improve deployment and stability of the PoC
- Evaluate and Improve Scalability (kubernetes, etc.)
- Integrate and Validate with network operational data

Team

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