aws

Flight Information Management System (FIMS)

Flight Information Management System (FIMS): Architecture Diagrams

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This architecture enables you to manage and operate services required for unmanned aerial systems on AWS.

Flight Information Management System (FIMS) Diagram
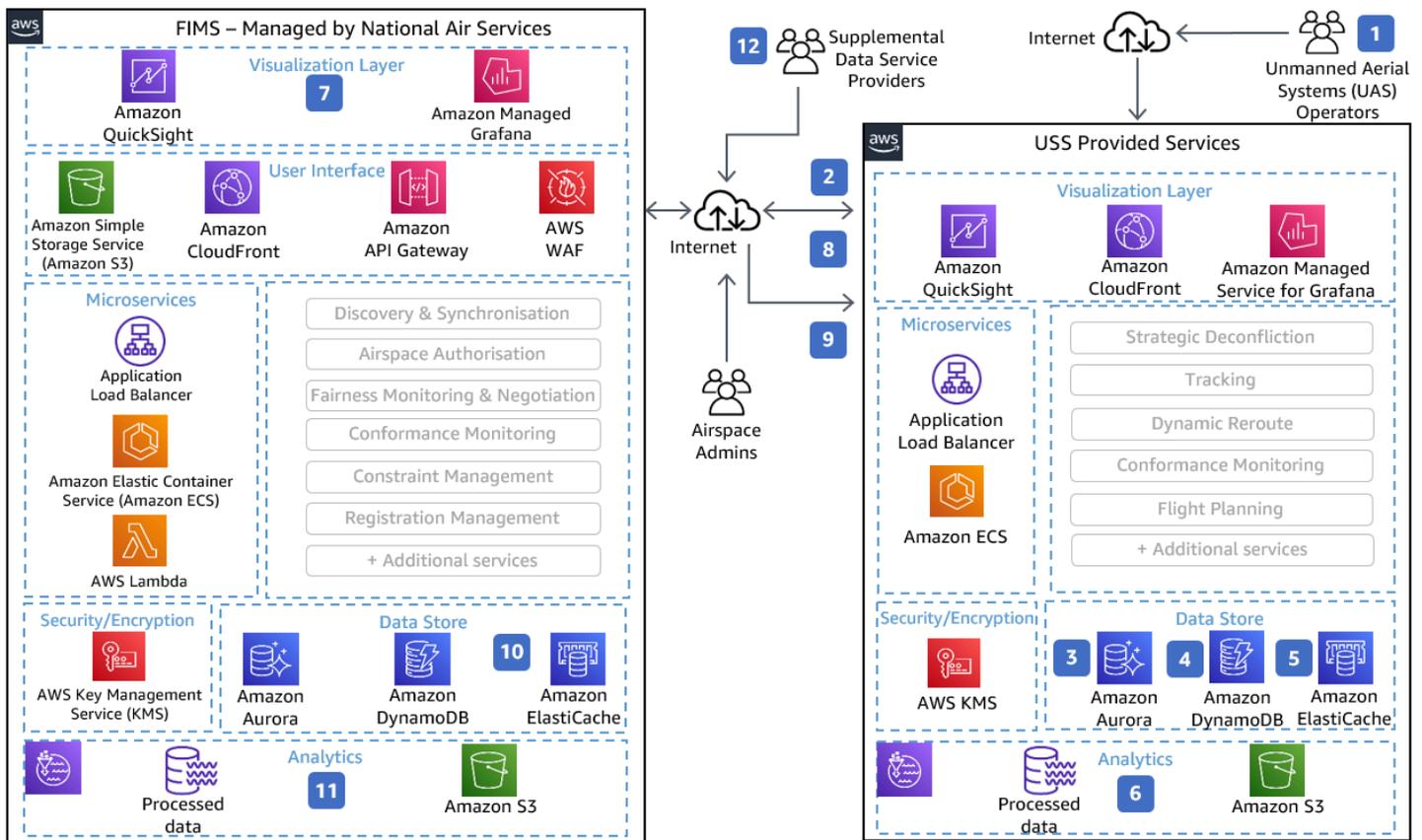
1. Operators access the FIMS services through a web-based portal for flight planning and additional services.

2. Flight plans are sent to appropriate microservices and **Amazon Elastic Container Service (Amazon ECS)** is leveraged for processing approvals.

3. Persistent relational data such as registration and flight plan are stored in **Amazon Aurora**.

4. Real-time data (such as telemetry, position, track, and velocity) is stored in **DynamoDB** .

5. Cached data is stored through **Amazon ElastiCache** for quick retrieval.

6. Processed data is encrypted and stored in data lake, and managed by **AWS Lake Formation**, in accordance with regulatory compliance.

7. Virtualization tools to view real-time positioning, flight paths, potential conflicts, etc. can be deployed using **QuickSight** and **Amazon Managed Grafana**.

8. Flight plan approvals automatically provided to UAS operators by FIMS.

9. UAS operators request/receive manual approval from FIMS Admins for flight plans when conflicts arise.

10 UAS provider data stored in **Amazon Aurora** and real-time data stored in **DynamoDB** databases.

11 Data lake built on **Amazon S3** is used for secure data archival, analytics, and visualization.

12 Supplemental data from weather services is ingested into FIMS for smart decisioning.

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Further reading

For additional information, refer to

- AWS Architecture Icons
- AWS Architecture Center
- AWS Well-Architected

Diagram history

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Initial publication	Reference architecture diagram first published.	February 2, 2022

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