



Architecture Diagrams

Electro-Optical Imagery Reference Architecture



Electro-Optical Imagery Reference Architecture: Architecture Diagrams

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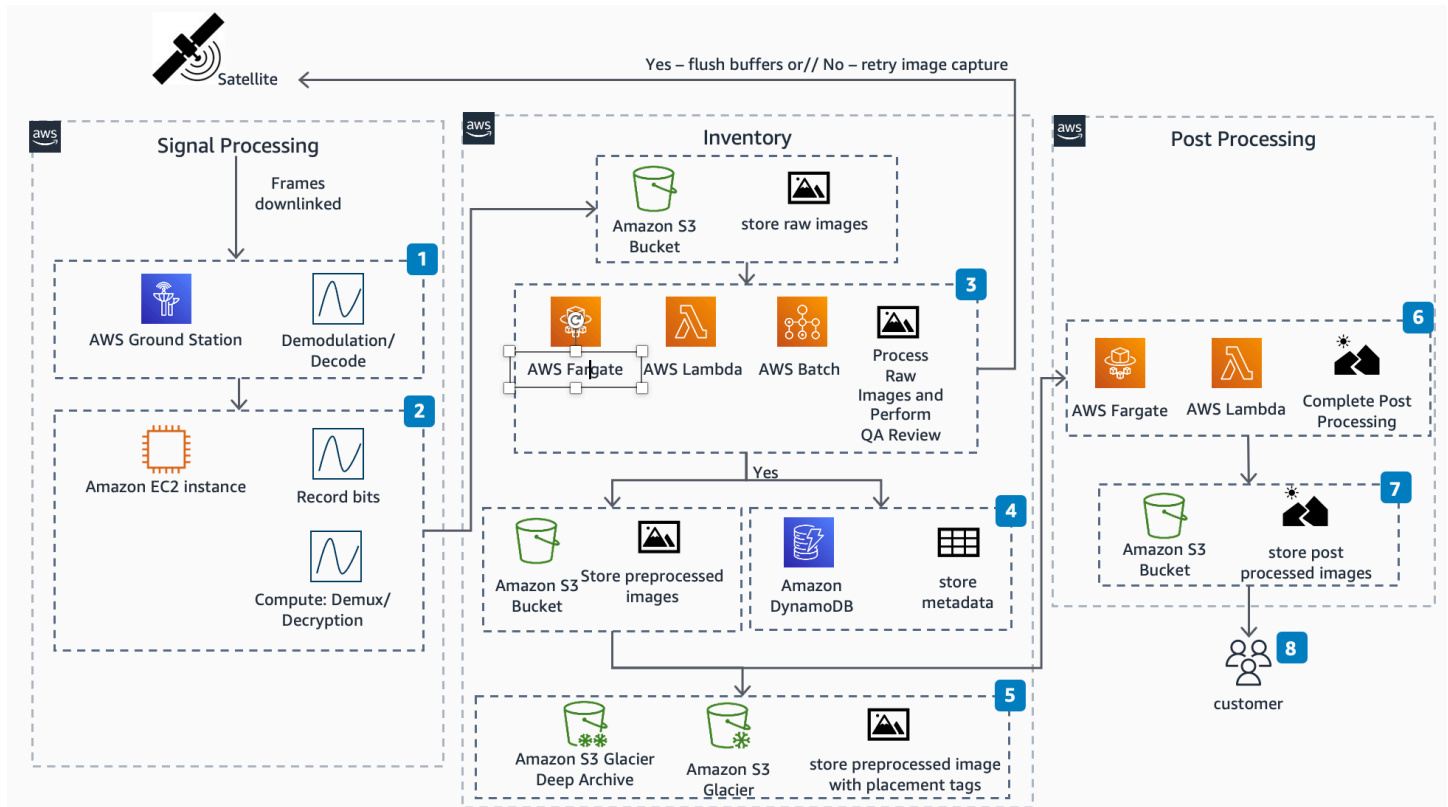
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Electro-Optical Imagery Reference Architecture

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This architecture enables you to process electro-optical imagery on AWS.

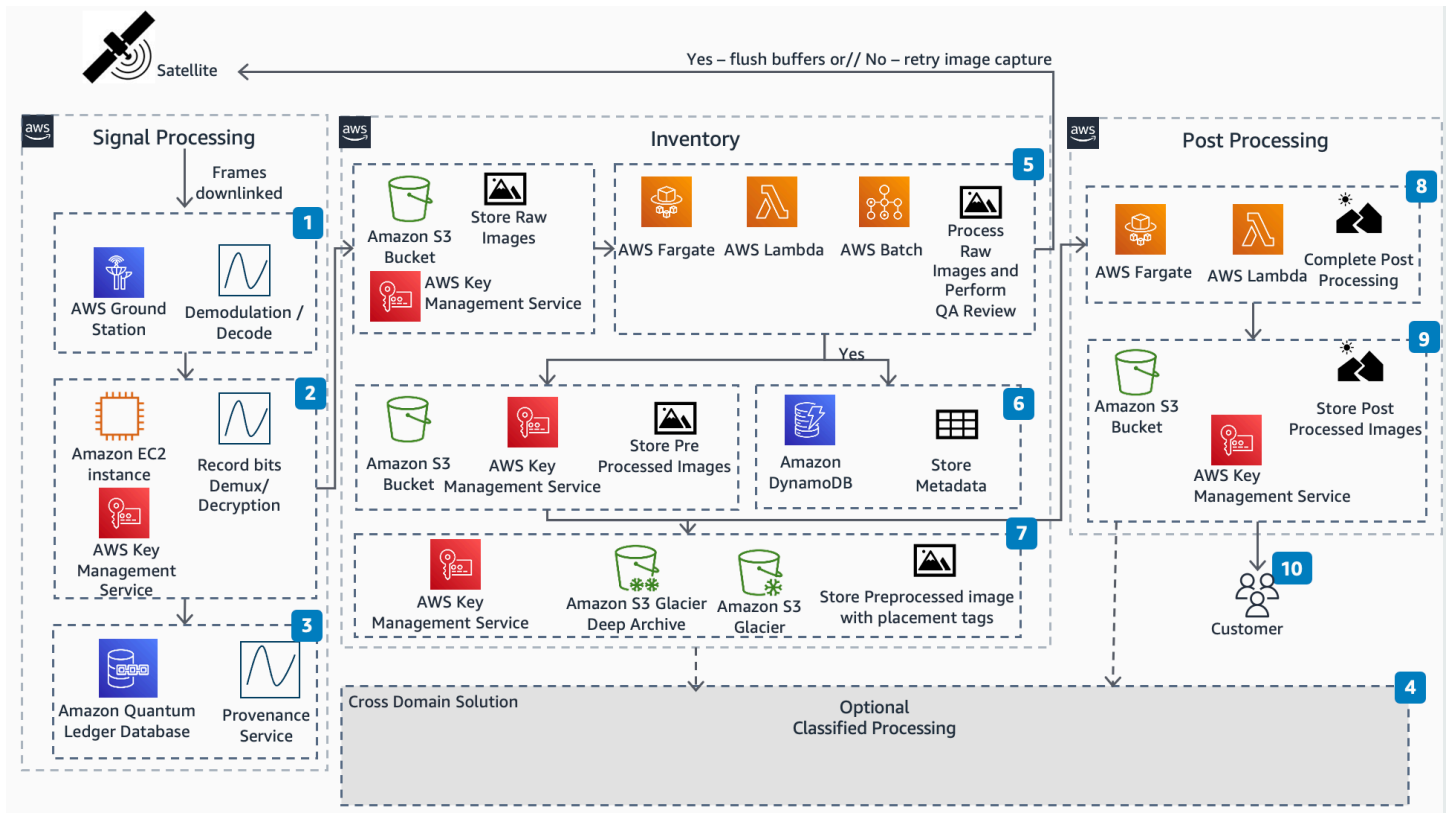
Electro-Optical Imagery Reference Architecture



1. Demodulate and Decode: Extract baseband waveform from modulated carrier; remove forward error correction.
2. Convert into raw sensor data: Decommutate signal frames; decrypt data .
3. Process Raw Images: Process Raw Images and Perform QA Review
 - QA Review: Confirm Images are sufficient for processing
 - **AWS Batch**: Run multiple jobs in parallel
 - **AWS Fargate and AWS Lambda**:
 - Sensor Correction: Apply corrections for optical distortions
 - Orthorectify: Sensor perspective

- Georeference: Apply image to spatial grid and assign known coordinate system
 - Generate Thumbnails: Create post-processed thumbnails for customer purchase
4. Store metadata: Store information on latitude/longitude collection, region collection, time and date of retrieval .
 5. Storage: Store preprocessed images in a variety of **Amazon S3** services by balancing cost savings and time of retrieval.
 6. Post Processing and Analysis: Complete imagery processing.
 - Feature Extraction: Identify features in images (such as ships)
 - Naming/Tagging of Features: Tag features by name/identification system
 - Time Series Creation: Tag images to sort
 7. Storage and Dissemination: Final storage of images and analytics for end customer.
 8. Customer Delivery: Deliver final images to end customers

Electro-Optical Imagery Reference Architecture (Classified Processing)



1. Demodulate and Decode: Extract baseband waveform from modulated carrier; remove forward error correction.
2. Convert into raw sensor data: Deconvolute signal frames; decrypt data .
3. Immutable transaction log: Cryptographically establish provenance and fidelity .
4. Optional Classified Processing: Throughout the image processing, move data to the appropriate regions for classified processing.
5. Process Raw Images: Process Raw Images and Perform QA Review
 - QA Review: Confirm Images are sufficient for processing
 - **AWS Batch**: Run multiple jobs in parallel
 - **AWS Fargate and AWS Lambda**:
 - Sensor Correction: Apply corrections for optical distortions
 - Orthorectify: Sensor perspective
 - Georeference: Apply image to spatial grid and assign known coordinate system
 - Generate Thumbnails: Create post-processed thumbnails for customer purchase
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10. Customer Delivery: Deliver final images to end customers

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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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Change	Description	Date
Initial publication	Reference architecture diagram first published.	May 12, 2021

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