



Architecture Diagrams

# Spatial Computing 3D Content Management



# Spatial Computing 3D Content Management: Architecture Diagrams

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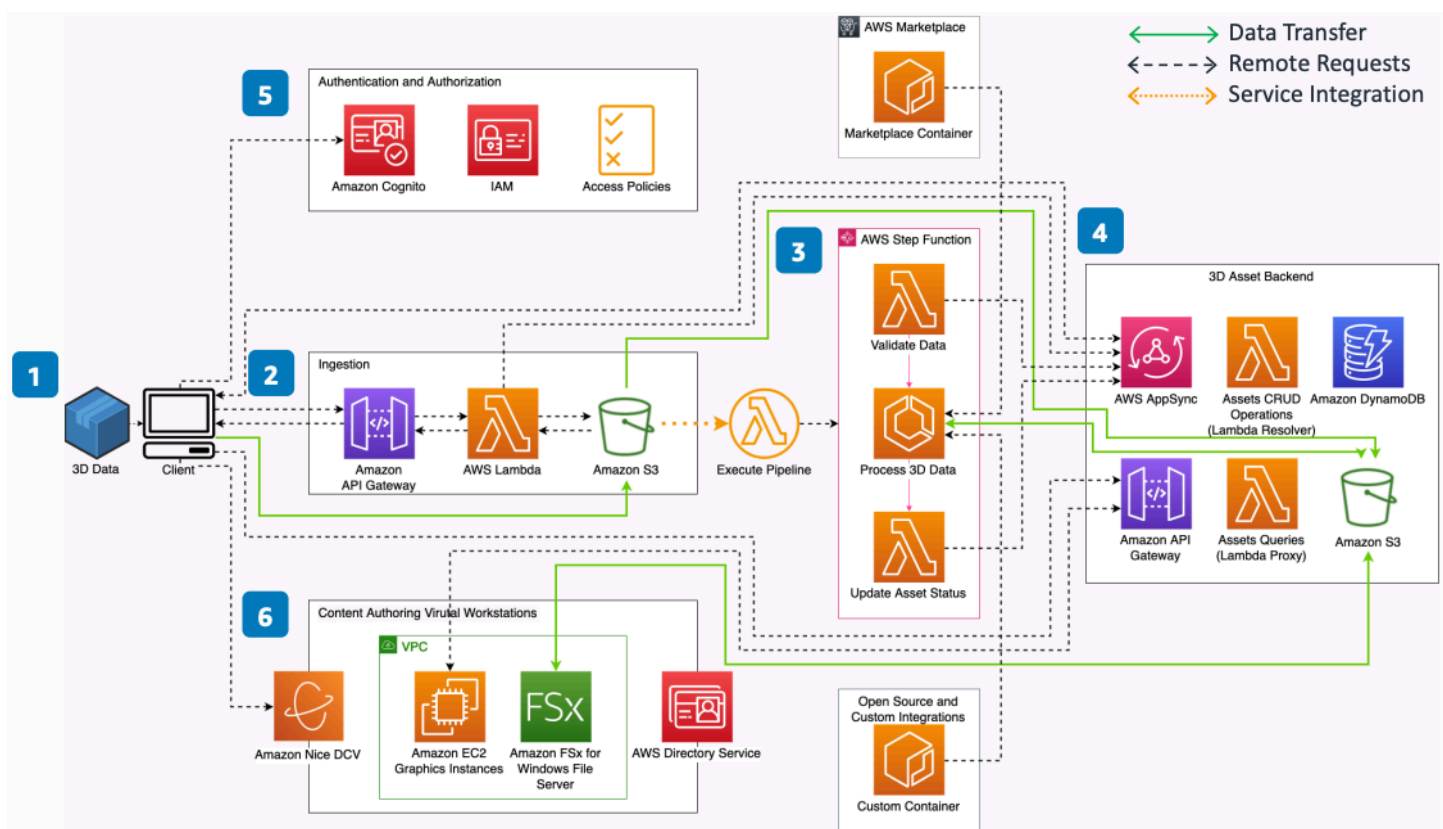
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# Spatial Computing 3D Content Management

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With this architecture, you can create a single source of truth for 3D assets. Automate ingestion, transformation, and versioning of 3D assets. Process computer-aided design (CAD), photogrammetry, light detection and ranging (LiDAR), or other existing 3D data. The solution uses [Amazon Simple Storage Service](#) (Amazon S3), [Amazon DynamoDB](#), [AWS Lambda](#), and [AWS Step Functions](#).

## Spatial computing 3D content management diagram



The following steps describe the architecture:

1. With a graphical user interface (GUI) or command-line interface (CLI) client, users upload 3D data, make queries against existing data, and connect to virtual workstations.
2. On initial upload, the system creates an asset entry in a DynamoDB table. Uploading source data to Amazon S3 triggers an event that invokes a Lambda function to initiate a Step Functions workflow.

3. The workflow has three states: inspect the validity of uploaded source data, process the data with AWS Marketplace or open source tools, and record the results in the asset database.
4. Use [AWS AppSync](#) to manage create, read, write, and delete operations to asset entries with GraphQL mutations. Consuming applications subscribe to GraphQL subscriptions for real-time updates. Implement a REST API with [Amazon API Gateway](#) for request and response communication.
5. [Amazon Cognito](#) handles authentication. [AWS Identity and Access Management](#) user group policies control fine-grained access over asset resources.
6. Virtual workstation desktops stream over the network with [Amazon EC2](#) graphics instances backed by [Amazon DCV](#) for manual content authoring.

## Further reading

For additional information, see the following resources:

- [AWS Architecture Icons](#)
- [AWS Architecture Center](#)
- [AWS Well-Architected](#)

## Diagram history

To receive updates about this reference architecture diagram, subscribe to the RSS feed.

| Change                              | Description                                     | Date            |
|-------------------------------------|-------------------------------------------------|-----------------|
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