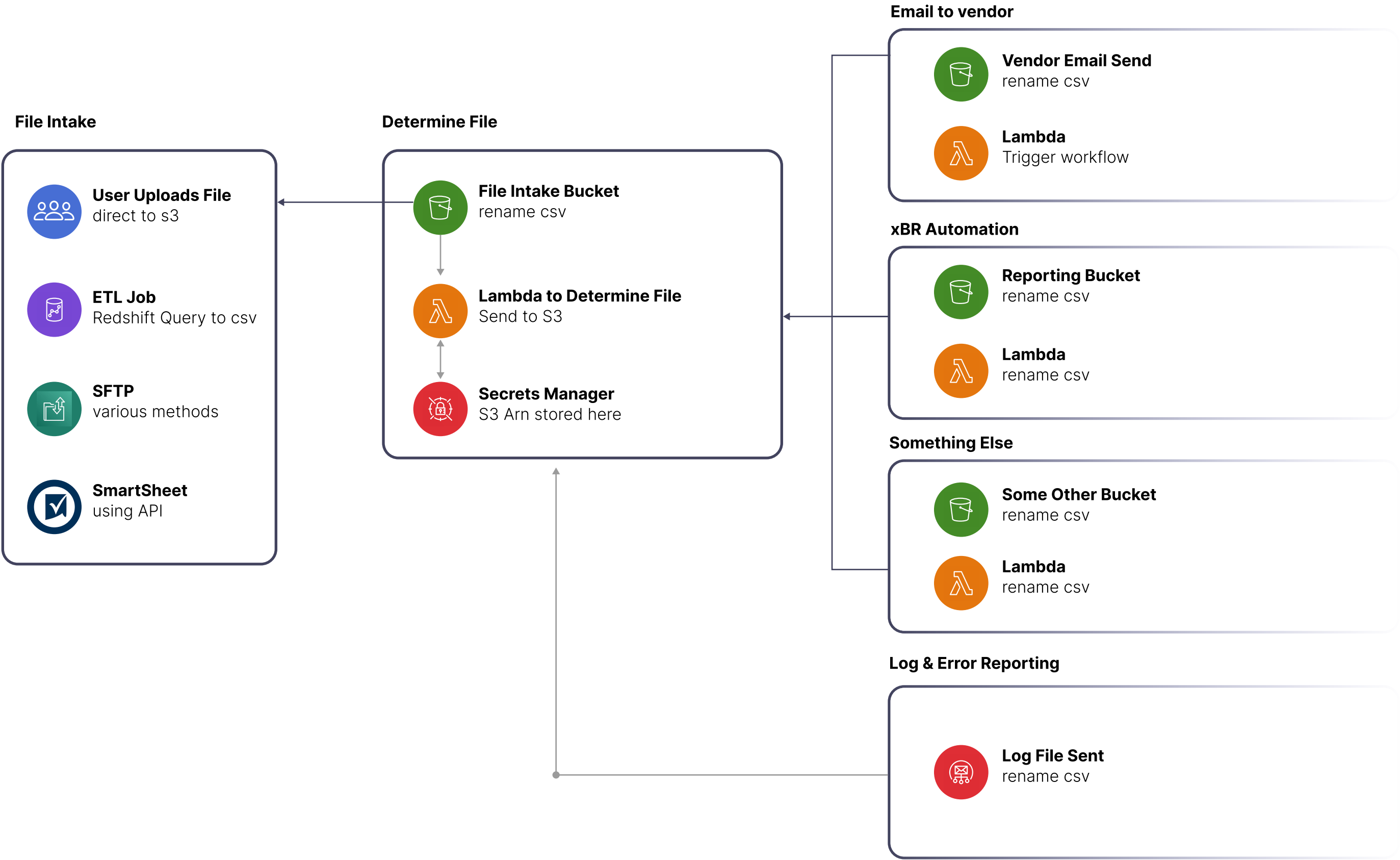
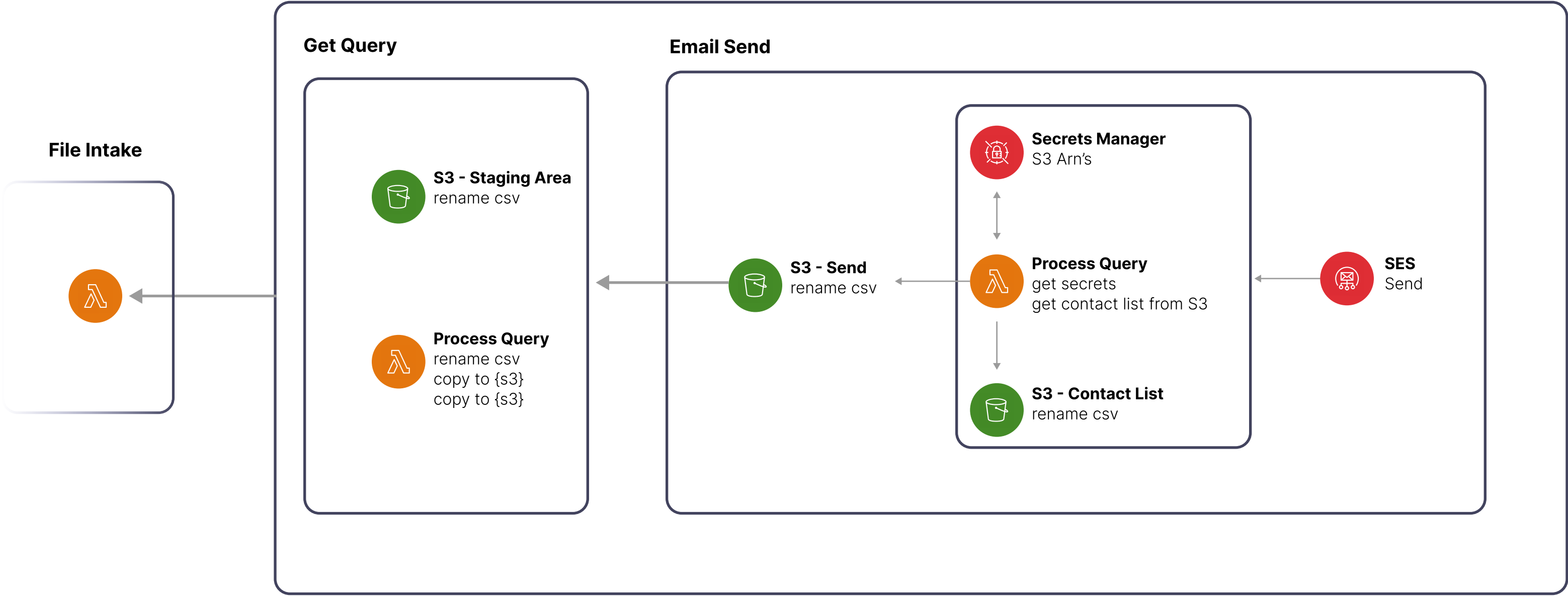


# File Intake



Query Automation Stack



# Query Automation Stack

This AWS Lambda function automates the process of monitoring a specific S3 bucket for CSV uploads, extracting incomplete tasks from the CSV, summarizing the data, and sending out a formatted HTML email to designated recipients. The function leverages AWS services such as S3, SES (Simple Email Service), and Secrets Manager.

## Functionality

### Trigger and Event Handling:

- The Lambda function is triggered by the s3:ObjectCreated:\* event, meaning it executes whenever a new object (CSV file) is uploaded to the designated S3 bucket.

### Fetching and Processing Data:

- Upon triggering, the function retrieves the uploaded CSV file from S3.
- It reads the CSV content into a Pandas DataFrame and filters rows where the complete column is set to False, indicating incomplete tasks.

### Data Aggregation:

- The function groups the incomplete tasks by their type and counts the number of occurrences of each type.
- The grouped data is converted into a dictionary format for easy HTML table generation.

### Email Notification:

- The Lambda function sends an email via AWS SES to a list of recipients. The email contains a summary of the incomplete tasks and an HTML-formatted table showcasing the number of incomplete actions by type.
- The HTML content is dynamically generated, incorporating the current week number and a button for recipients to update the status of tasks on a specified portal.

### Secrets Management:

- AWS Secrets Manager is used to securely store sensitive information such as SES ARN and recipient email addresses.
- The function retrieves these secrets at runtime to configure SES and determine email recipients.

## Functionality

### S3 Bucket Event

Icon: AWS S3 icon  
Action: “An object (CSV file) is uploaded to an S3 bucket.”  
Arrow: Points to the Lambda Trigger

### Lambda Trigger

Icon: AWS Lambda icon  
Action: “The Lambda function is triggered by the S3 ObjectCreated event.”  
Arrow: Points to Retrieve CSV

### Retrieve CSV

Icon: AWS Lambda icon  
Action: “Lambda reads the CSV file from S3.”  
Arrow: Points to Process Data

### Process Data

Icon: AWS Lambda icon  
Action: “Lambda processes the CSV to filter incomplete tasks and groups data by type.”  
Arrow: Points to Fetch Secrets

### Fetch Secrets

Icon: AWS Secrets Manager icon  
Action: “Lambda retrieves email addresses and SES configuration from AWS Secrets Manager.”  
Arrow: Points to Generate Email Content

### Generate Email Content

Icon: AWS Lambda icon  
Action: “Lambda creates an HTML email summarizing incomplete tasks.”  
Arrow: Points to Send Email

### Send Email

Icon: AWS SES icon  
Action: “Lambda uses SES to send the email to the recipients.”  
Arrow: Points to Logging

### Logging

Icon: AWS CloudWatch icon  
Action: “Lambda logs operations and errors to CloudWatch Logs.”  
Arrow: Points to End of Process

### End of Process

Icon: None (or use an end marker)  
Action: “Process completes.”