# Incident Report: Composer DAG Overload from Cloud Function

**Issue Summary**

Due to a mass upload of ~50,000 files into GCS, a Pub/Sub notification system triggered a Cloud Function

which invoked an Airflow DAG (`gdw_to_apmf_push_dag`) for each file. This caused:

- ~55,000 DAG runs queued in Composer

- Cloud Function instance exhaustion (`no available instance` error)

- Airflow queue congestion and risk of Composer resource limits

**Immediate Fixes Applied**

1. **Pub/Sub purge:** All unacknowledged messages were purged to stop additional function invocations.

2. **DAG filtering logic:** DAG already includes a 5-minute gating mechanism.

3. **Cloud Function disablement:** Temporarily disabled by setting max instances = 0 to stop inflow.

4. **Queued DAG cleanup:** DAG runs were cleared manually or via gcloud CLI.

**Recommended Preventive Actions**

1. Implement rate-limiting inside the Cloud Function using timestamp validation.

2. Use GCP Secret Manager or Firestore to track last-triggered timestamps.

3. Enhance deduplication logic to prevent duplicate STS triggers.

4. Consider Eventarc filtering or Pub/Sub Dead-letter Topic to prevent flooding.

5. Monitor Composer, Pub/Sub, and Function metrics continuously with alerting policies.

*Prepared on: 2025-07-14*