1 Abstract

Services which maintain underlying state for other programs need comprehensive backup solutions for that state. At AdRoll, we run our applications in Amazon's EC2 environment, which provides several powerful tools for programmatically performing these backups. *Shutter* describes a workflow for leveraging these tools to reliably back up underlying block device storage for these services in a way that is easily catalogued and restored from.

2 Introduction

This document defines *Shutter*, a workflow for backing up EBS drives. It is three components:

- *snapshotting*: the process of taking consistent EBS snapshots and tagging them appropriately so that restoration processes can find them,
- *restoration*: the process of computing which of the snapshots stored by *Shutter* is the one to use given a set of requirements by the user, and attaching them to the currently-running instance, and
- *garbage collection*: the process of cleaning up older snapshots that have no value.

2.1 Requirements Notation

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

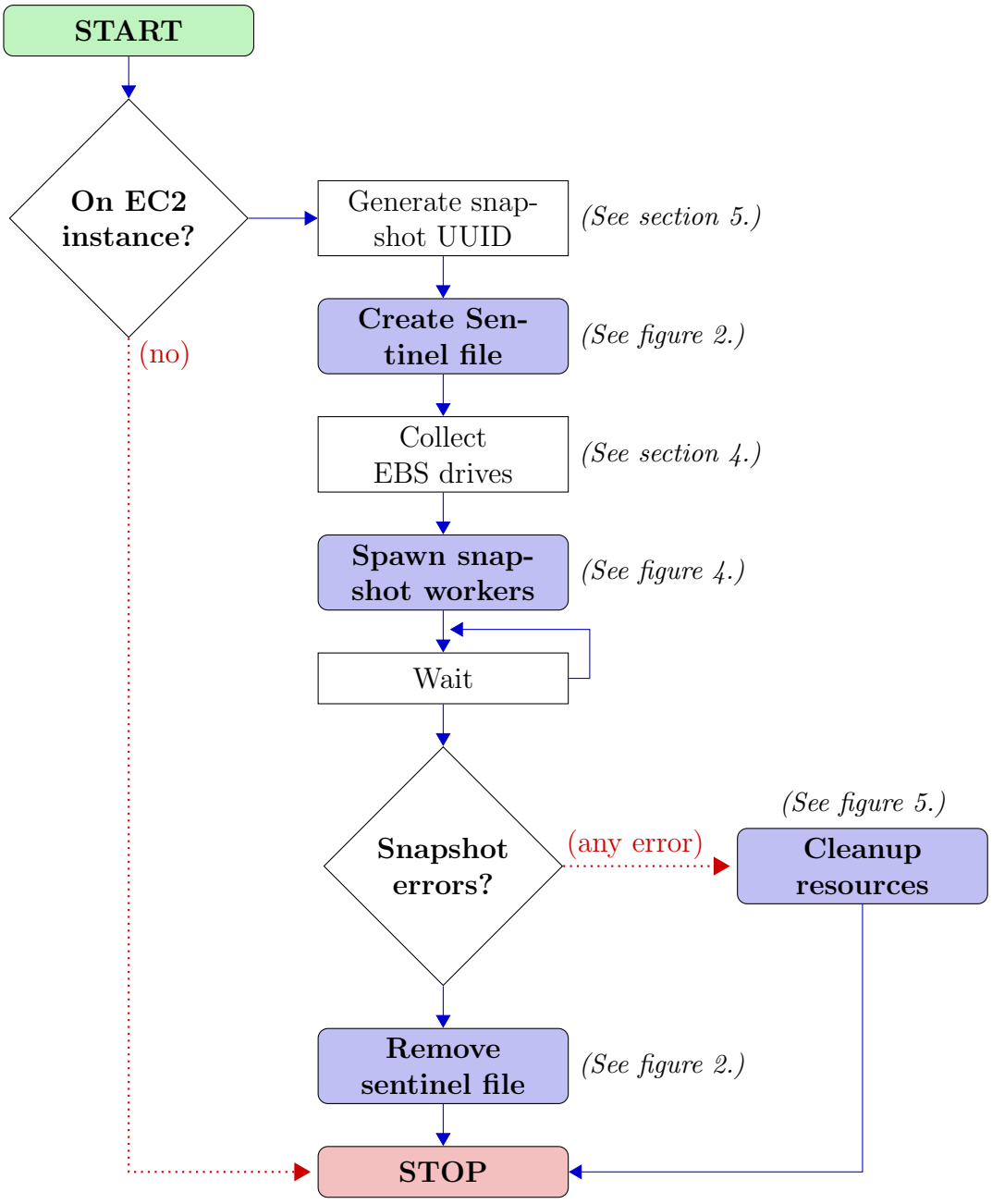

Figure 1. Snapshot Top-Level Flow.

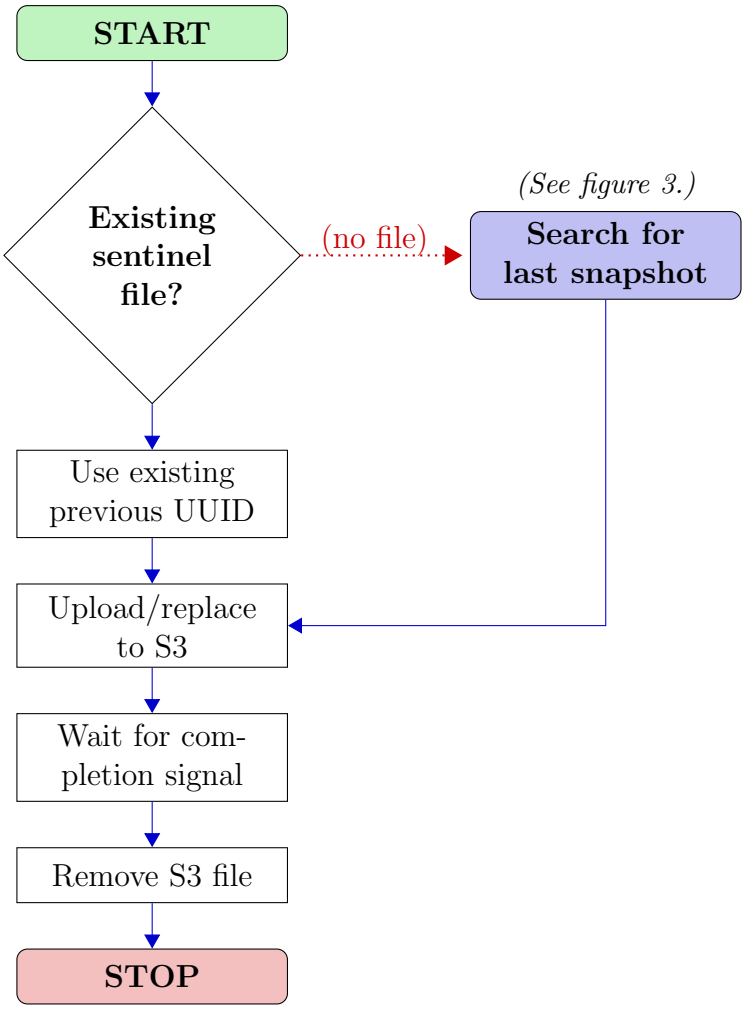

Figure 2. Sentinel Data File.

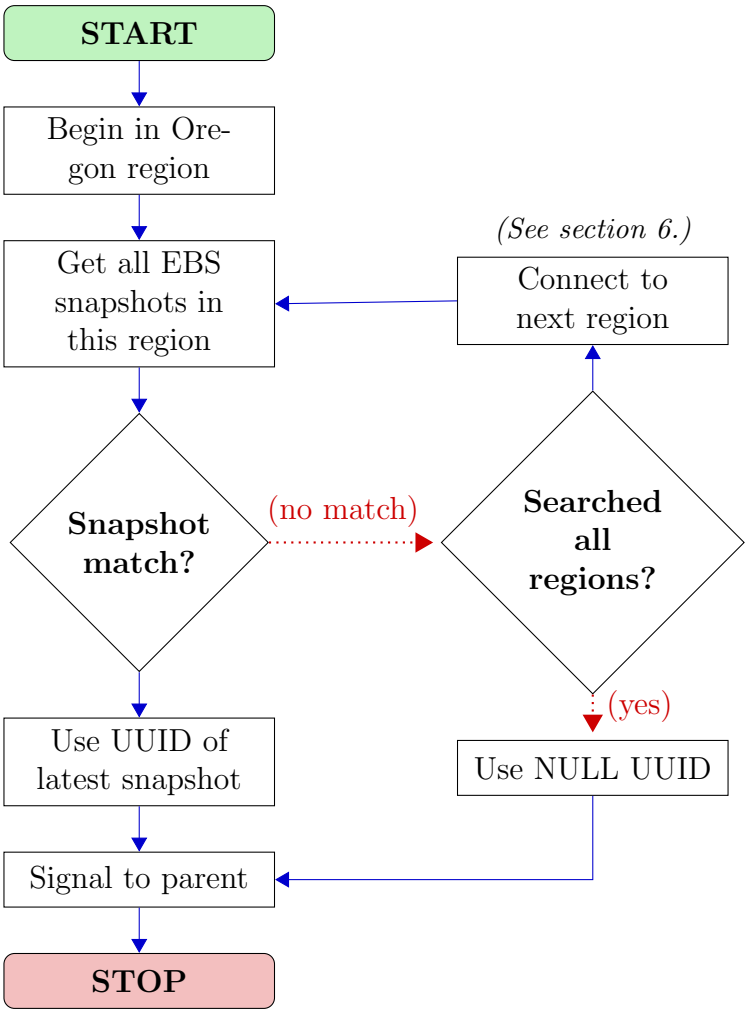

Figure 3. Search for Last Snapshot.

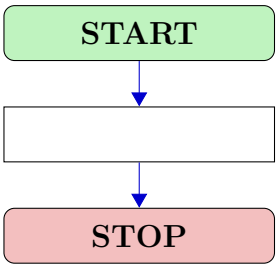

Figure 4. Snapshot worker.