Sentinel 2 Cloud Detector – Experiment Instructions

Image Generation Experiment – One Pi Configuration

- Requirements
    1. Pi Hat Profiler has been compiled by running the "**make all**" command at the top-level directory of the project.
    2. Sentinel 2 Cloud Detector and its dependencies have been installed according to the "**docs/sentinel2_CloudDetectorInstallationInstructions.pdf**" document.
    3. FTP server has been setup on the host or remote (may require port-forwarding) machine according to the "**docs/FTP_Server_Tutorial.pdf**" document.
- Description
    - The Image Generation Experiment performs the following tasks on separate hardware threads:
        1. Runs Pi Hat Profiler Executable (Records power measurements from the Raspberry Pi) and suspends program execution for 5 minutes (Idle Time).
        2. Performs cloud classification and cloud masking on the Sentinel 2 data files contained in the "**examples/**" directory
        3. Encrypts each data file.
        4. Compresses each encrypted file.
        5. Transmits the compressed data file if the pixel ratio of the image is acceptable.
- Instructions
    1. Run "**sh runImageGenerationExperiment_OnePiConfiguration.sh <ftpServerIpAddress_Required> <ftpServerPort_Required> <compressionDataClientIpAddress_Optional> <imageDataClientIpAddress_Optional> <encryptionDataClientIpAddress_Optional>**"
    2. To terminate the experiment, run "**sh killImageGenerationProcesses.sh**"