

# Daytime Processing

During the day, various tasks need to occur. These are implicitly specified in the Data Products Definition Document or the Calibration Plan.

## Raw Calibration Image Processing

As raw calibration images are taken during the day, they are archived just like the science images. They are also processed in order to perform a rapid quality assessment.

This processing is performed by the Archiver and Processing Cluster devices on the Alert Production hardware just like for night-time science images.

## DayMOPS

Each night's DiaSources will be processed along with previous DiaSources and derived intermediates to determine if new Solar System Objects have been detected, and, if so, estimate their orbits. This processing is referred to as the Daytime Moving Object Processing System (DayMOPS).

This processing is performed on Archive Center compute and storage resources. These are expected to be the same resources as the Alert Production since DayMOPS is expected to run quickly.

## Daily Calibration Products Production

After each day's raw calibration images have been taken, they will be processed to update the master calibration images and database to be used for the next night's observations.

This processing is performed by the Calibration Generator device on command by the OCS using the Alert Production hardware that is otherwise idle at that time.

## "Precovery" Forced Photometry

DiaSources that cannot be associated with existing DiaObjects will create new DiaObjects. During daytime, the last 30 days of images (which are available in the calibrated image cache) will be measured at the location of the new DiaObject, resulting in forced-photometry DiaSources that are added to the Level 1 database.

This processing is performed on Archive Center compute and storage resources. These are likely to be separate from the Alert Production resources.

## Smoke Test

Each day, before observing begins, the DM-derived systems will be used to perform a final pre-observing checkout. This will ideally use image data retrieved from the Camera Data System, processing it all the way through to alert generation using the production Alert Production hardware and software (although not actually generating alerts, of course). Automated checks will then recommend whether to continue with normal observing.

## Maintenance

In addition to the above, the DM-derived systems have an allocation each day for maintenance time.