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On how CC-IN2P3 intends to use dCache for digitizing the Universe

Thursday 1 June 2023 09:50 (30 minutes)

In this contribution we will present how CC-IN2P3 is preparing to use a dedicated instance of dCache to help produce the Legacy Survey of Space and Time (LSST) of the Vera C. Rubin Observatory. We will present how we intend to use dCache for both inter-site data exchange and for serving data to image processing pipelines running locally in the batch farm and for storing their products. We will highlight how our usage differs from the typical usage of dCache made by the LHC experiments also supported by the site.

The Rubin observatory is in its final phase of construction in the Andes mountains in Chile and due to start operations in early 2025 for 10 years. Its 8.4-meter telescope will nightly scan the southern sky and collect images of the entire visible sky every 4 nights using a 3.2 Gigapixel camera, the largest imaging device ever built for astronomy. Automated detection and classification of celestial objects will be performed by sophisticated algorithms on high-resolution images to progressively produce an astronomical catalog eventually composed of 20 billion galaxies and 17 billion stars and their associated physical properties.

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