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Data latency associated with acquiring and processing stored mission data (SMD) onboard low earth orbiting (LEO) satellite data poses a significate impact on data product optimal use. We describe a data acquistion and processing framework that have the capability of delivering lower latency LEO satellite observations and derived cloud products to better support weather diagnoses and forecasting, disaster management, airborne science research, and other Earth Science applications. These observations primary come from the MODerate resolution Imaging Spectroradiometer (MODIS) instrument onboard AQUA and TERRA satellites, and the Visible Infrared Imaging Radiometer Suite (VIIRS) instrument, onboard Suomi National polar-orbiting Partnership (SNPP), Joint Polar Satellite System (JPSS-1), and JPSS-2 satellites. The nominal latency of most NASA Earth Science data products from LEO satellites is in the 3 plus hour range. We will discuss deployment of Ground Station Observation Network (GSON) to reduce and deliver low latency satellite products within 10-25 minutes after observation. GSON, funded by NASA Earth Science Technology Office (ESTO) Advanced Information System Technology (AIST) Program, utilizes commercial ground station from Amazon to receive real-time direct broadcast (DB) data. The co-location of the ground stations within the compute and storage nodes enables GSON processing framework to quickly process and deliver lower latency LEO satellite data products that would allow for more informed decision-making process.
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