EARTH OBSERVATION SYMPOSIUM (B1)
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MINIMIZING LATENCY BY INVESTING IN MULTIPLE PROCESSORS IN A MULTI-MISSION ENVIRONMENT

Abstract

KSAT is known for its Ground Stations close to both Poles. Svalsat at 78 degrees North, is the world's busiest Ground Station with 85 LEO Satellites served from there. This unique location is complemented by the Troll station at 72 degrees South. This allows contact to each satellite twice on each orbit reducing latency to 45 minutes. The KSAT mid-latitude stations in South Africa, Mauritius, Dubai and Singapore further reduce latency to below 30 minutes for the orbits that are covering most of the land area of the globe. In an effort to reduce latency further and improve the overall efficency of data processing and delivery KSAT is investing into a multi-mission /multi-ground station /multi-processor approach. The start was the Radarsat processor that KSAT has been operating since 10 years. This is now being complemented by a processor acquired from e-Geos for the COSMO Skymed fleet and further with a processor for Sentinel-1. Additionally, KSAT is currently negotiating for additional processors for both radar and optical data from 6-8 satellites. KSAT is also expecting to support the Radarsat Constellation as a continuation of the present usage of Radarsat. Once all these processors are fully implemented this will lead to the highest availability and the lowest latency possible as the synergies from the Ground station network are combined with the maximum availability of satellites. It is today possible to request multi-mission data over a target area instead of waiting before one specific satellite passes over the region, but the more new satellites are added the bigger the impact will be on latency. This should open for applications where monitoring on short notice is key. Not only oil spill detection, but also other applications like ice monitoring and vessel detection should become more operational and effective than they are today. KSAT is adding more processors and auxilary data that can be combined with radar data and is interested to discuss the integration of further processors into its system with data right holders.