

22nd IAA SYMPOSIUM ON SPACE DEBRIS (A6)
Operations in Space Debris Environment, Situational Awareness - SSA (7)

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THE TRACSS CONSOLIDATED PATHFINDER: LEVERAGING COMMERCIAL CAPABILITY IN
LEO

Abstract

As the Office of Space Commerce stands up TraCSS, it is mindful of direction to make use of commercial data and services. The Phase 1 TraCSS capabilities will include the purchase of commercial data and products to improve the solutions for high-risk conjunctions. To explore how the Office will procure, measure, integrate and budget for the desired commercial SSA services, a short-term pathfinder activity with industry has been undertaken. The "Consolidated Pathfinder" announced earlier this year in January, will exercise many of the Phase 1 capabilities including obtaining additional data on secondary objects of conjunctions of interest, including an orbit determination of those objects, data quality and integrity monitoring of the process and insertion of the updated data into the conjunction screening process. In addition, the pathfinder provides an opportunity to explore the ability of the commercial sector to maintain an entire LEO catalog using commercial resources alone.

Three industrial providers have been selected: LeoLabs, which will provide LEO radar tracking; Sling-shot Aerospace, which will provide LEO optical search and tracking; and the COMSPOC Corporation, which will provide enterprise catalog maintenance. Two data quality monitoring vendors, SpaceNav and Kayhan Space, have also been selected to evaluate the data and products. A two-month preparation period will run from 1 FEB to 31 MAR 24, Pathfinder live data collection will take place from 1 APR to 30 JUNE, and a post-Pathfinder analytical period will occur during the month of July.

The paper will both describe the pathfinder activity and report on the results of the principal objectives, related to establishing metrics, understanding price and acquisition methodology, and the secondary objective of catalog maintenance. For conjunctions of interest, pathfinder-generated Conjunction Assessment (CA) products will be compared to those generated by the DoD during that same period to identify those situations in which mitigation decisions might be affected (most significant from an operational perspective) and those situations in which decisions to begin mitigation planning may also be affected (since this most heavily drives workload).