BLUESTAQ

RFI Response to Traffic Coordination System for Space (TraCSS)

Scope of Civil Space Situational Awareness Services

For the Office of Space Commerce,
National Oceanic and Atmospheric
Administration, Department of Commerce.

RTID: 0648–XV190

Responding Company: Bluestaq, LLC

Scope of Proposed Basic SSA Safety Services

Does the proposed basic safety SSA service provide sufficient data to allow ongoing operations of orbital assets at a level equal to or beyond that currently provided by the DoD?

The answer to this question depends on a few items.

DOC has expressed the intent of using O/O ephemeris as the source for primary objects in the conjunction analysis process. What does DOC intend to use for the states of the secondary objects that may non-participating (O/O's that don't agree to participate in DOC's program, or derbis)

What propagator does DOC intend to use to propagate secondary states? Will the propagator use environmental models or HASDM equivalent data?

What is DOC's CONOP vision for collection tasking on conjuncting objects with insufficient states accuracies?

What proposed basic safety SSA services are essential to your ongoing operations? If the U.S. Government were to prioritize delivering individual services as part of TraCSS, which ones should be provided soonest?

To perform conjunction analysis as accurately as DoD, the DOC must provide services 1 – 14 and maintain or leverage a high-accuracy catalog of non-participating objects. The one exception to that statement is Collison Avoidance (COLA). DOC could choose to roll out COLA at a separate time without affecting its on-orbit conjunction processing.

What additional capabilities beyond those currently provided by the DoD should be included in the TraCSS?

TRaCSS would advance the mission if it could:

Maintain a streaming catalog as opposed to a batch catalog process. States for individual objects should be created as a sufficient number of observations are received on a particular object that results in a statistically relevant state update.

Perform streaming conjunction analysis, with new results computed as state updates are generated from the streaming catalog.

Intelligent tasking which considers the nature of the error volume of the secondary object when selecting which sensors to task and performs sensor collection in real time as the need dictates.

Where applicable, at what level or how often should the service be performed?

The CA services should be provided as a continuous service updating results as state updates are performed by a streaming catalog service. The service needs to be performed at a level where the catalog of secondary states can be accurately maintained.

Impacts of Proposed Basic SSA Safety Services on Commercial SSA Providers

Are any basic SSA safety services readily available in the current U.S. SSA industry? If so, is the service affordable to owners and operators of spacecraft?

No answer

For commercial SSA service providers, does the current SSA capability offered by the DoD impact your current or future product offerings?

NO answer

Are there unique advantages to the government purchasing and redistributing certain commercial services rather than leaving these to the commercial marketplace?

If there are any features, products, capability or vendors that the government or industry would like to see added to the marketplace Bluestaq will do so at no expense to the government or industry. Requests will be added to our platform backlog and worked in an appropriate order.

Tenets of Participation and Receipt of Basic SSA Safety Services

What information should owners and operators of spacecraft be required to provide to OSC to participate in TraCSS?

SSA O/Os should make their ephemeris available, as well as their maneuver plans. O/Os should agree to allow their ephemeris to be accessible to UDL users. The data is already in the UDL it is just not visible exposed or accessible to the community until we can get concurrence to do so from O/O's

What actions should owners and operators agree to take to participate in TraCSS as part of the tenets of participation?

No answer