(U//FOUO) Slicing Up the 'Satellite Survey' Pie

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Setting up a global division of effort for surveying satellites of interest (S//SI)

(S//SI) "Hey! Look at that satellite!"
"It's mine!"
"No, it's mine!"

Whose satellite is it to survey anyway? In close collaboration with SIGDEV Strategy and Governance (SSG), the FORNSAT Division is taking great strides in addressing these kinds of questions coming from collectors across the extended enterprise, and in coordinating a solution with Second Party partners. In this article, you will learn about the challenges of maintaining accurate environmental data on a growing number of satellites, and steps taken by the FORNSAT Division and SSG to coordinate the efforts of disparate survey resources.

(U) **The challenges:**

- (U//FOUO) Approximately 300 geo-positional satellites have been noted in the environment.
- (U//FOUO) More than 1,000 beams are visible worldwide.
- (U) Currently there is:
    - (U) Very little documentation on beam survey responsibilities and status.
    - (U//FOUO) Limited communications between sites on survey efforts. This leads to duplication and wasted resources.

(U//FOUO) **The solutions:**

(S//SI) Thirteen fixed FORNSAT sites and eleven covert sites perform daily surveys of mission satellites, which account for less than 20% of the overall satellite environment. Until recently, there was no process for surveying the non-mission satellites, which account for the remaining 80% of the environment. The result was duplication of effort (same satellites being surveyed by different sites) or some satellites going for extended periods without being surveyed.

(S//SI) A major goal of the FORNSAT Division and SSG has been to achieve an efficient and coordinated survey process. As a starting point, the FORNSAT Division designed a Satellite Survey Web Page to provide a method of assigning survey responsibilities for primary satellite beams. Although this was a good first step, it soon became evident that better coordination was needed with the 5-Eyes community. As a result, FORNSAT and SSG co-sponsored the first Satellite Survey Working Group (SSWG), held at NSA in January 2004.

(S//SI) During the inaugural SSWG, three major initiatives were presented and agreed upon:

1. Consensus on what constituted a valid survey record: this was required in order to build trust in the quality of survey data from all participants.
2. A 5-eyes common distribution list for SIGDEV reports: Previously, only a few sites produced a SIGDEV tipper, none of which had a common format or distribution list.
3. A new process to create a more flexible method of handling satellite beam assignments across the 5-Eyes community: creation of the Beam Controller Database filled this need.

(S//SI) The Beam Controller Database provides additional information to facilitate planned survey efforts. It:

- lists site responsible for surveying each of the satellite beams.

- lists site that last surveyed a beam.
- links to a tasking database to identify mission carriers tasked on each satellite.
- links to image files to display the beam footprint.
- links to the Environmental Knowledge Base (EKB/ROADBED).

(S//SI) The URL for the new Beam Controller Database is:

[redacted]

(U//FOUO) **The future:**

(S//SI) The Beam Controller Database will continue to evolve and improve the coordinated satellite survey process. For more information on the database or the next SSWG (26-27 May at NSAW), checkout this website:

[redacted]

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