Starling 1.12 Release Notes

Version 1
2022-04-29

Introduction

Swift Navigation is pleased to provide the latest release for Starling, Swift's receiver-agnostic precise Positioning Engine. Starling version 1.12 improves the performance of the GNSS and Fusion Engines.

Enhancements

- The Starling Fusion Engine now populates the odometry status flags in SBP message `MSG_INS_STATUS`. In previous versions, these flags had always been set to 0.
- The Starling Fusion Engine now ensures that the reported correction age in SBP message `MSG_SOLN_META` is consistent with the reported fix mode of the solution. In previous versions of Starling, this field contained the most recently received correction age.
- Starling can now output SBP messages `MSG_SV_AZ_EL` and `MSG_MEASUREMENT_STATE` along with NMEA GSV sentences.
- GNSS Engine time-matched RTK mode is added. This mode outputs an RTK solution only when a base observation is received for the same time tag as the rover observation. This mode is primarily intended for use in moving baseline scenarios to compute RTK heading.
- GNSS Engine system time mode setting is added. It enables the user to use either platform system time (default) or GNSS ephemeris data for determining current GPS week.

Known Issues

- Slight degradation in the vertical accuracy when using L5 SSR corrections vs OSR corrections.
- The `MSG_MEASUREMENT_STATE` reports L1 band satellites only.
- System does not align inertial fusion when speed exceeds alignment speed threshold (default 5 m/s (18 km/h, 12 mph)) and the vehicle is driving in reverse.

SBP Version

SBP specification version v4.1.4