Starling 1.6 Release Notes

Version 1

2021-10-28

Introduction

Swift Navigation is pleased to provide the latest major release for Starling, Swift's receiver-agnostic precise positioning engine. Starling version 1.6 adds an enhanced accuracy confidence level and various bug fixes.

Enhancements

Solution Accuracy Confidence Level—New SBP message `MSG_POS_LLH_ACC` adds unbounded estimated horizontal, vertical, cross-track and along-track errors with a confidence level configurable to 40% or 68%.

Changes from Starling 1.5 and Bug Fixes

- Fixed u-blox Measurement Engine reboot detection.
- Fixed sensor fusion engine reset when entering a GNSS denied environment.
- Fixed a bug preventing the "keep alive" functionality from being triggered during network outages.
- Fixed a bug causing NMEA messages to not be sent to the correction services when using u-blox receivers.
- Fixed a bug in vehicle attitude estimate calculation.
- Improved handling of the initial connection to Skylark.
- Uses SBP protocol v3.4.10.

Known Issues

- Slight degradation in the vertical accuracy when using L5 SSR corrections vs OSR.
- Under high CPU stress on resource constrained targets there is a possibility for data loss in processing. This will result in degraded performance with logged warnings similar to:
  - "dropping data"
  - "dropped N messages to allow new messages in input queue"
- Reduced solution availability when the internet connection is unreliable. This will result in degraded performance with logged warning:
  - "Unable to allocate obs buffer"