

Timing, Positioning and OpenPNT

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Field	Value
Distribution	BSS — OpenC5ISR
Product	OpenC5ISR
Release	0.15.1
Deployment	<code>openc5isr.bss.dev</code>
Source	<code>/srv/bss/releases/OpenC5ISR-v0.15.0-20app</code>
Evidence	Reference architecture and timing term scan
Source fingerprint	<code>93926e8c834f1ed79c9017a4096f70c76d73ce4f870f104fbd0cf54b2bed50ee</code>
Status	Generated baseline — human review required

“ **Verification boundary:** This page combines platform design guidance with static evidence from the release. It does not prove that every detected interface is enabled, reachable, secure, or operational in the deployed environment.

Timing and positioning role

OpenPNT should register and monitor the clocks, coordinate frames and position sources used by sensors, radios, tracks, simulations and analytic products. Accurate correlation requires knowing not only a timestamp and coordinate, but also their source, reference frame, uncertainty and

quality.

Required metadata

Area	Minimum context
Time	UTC timestamp, clock source, synchronization method, offset/error estimate and leap/time-scale handling.
Position	Coordinate reference system, datum, origin, axes, units, uncertainty and update time.
Sensor geometry	Platform pose, antenna/camera offsets, orientation and calibration profile.
Simulation	Scenario clock, time acceleration, federation epoch and mapping to wall-clock time.

Observed timing indicators

Indicator	Count/evidence
PTP/PPS	1064
camera/video	362
UHD/USRP	341
AIS	154
HackRF	132
FlightGear	121
PlutoSDR	115
DIS	85
SoapySDR	63
ADS-B	46

Verification tests

- Confirm NTP/PTP/White Rabbit service state and measured offset on every participating host.
- Verify sensor products carry source timestamp and clock-quality metadata end to end.

- Validate coordinate transforms against known control points and record calibration versions.
 - Alert when time or position quality falls below mission thresholds instead of silently accepting degraded data.
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Maintainer Notes

Add human-reviewed deployment notes, corrections, decisions, screenshots, and links here. Content outside the generated block is preserved on future runs.

Revision #2

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