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ICAO SARPs Recommendations

“Recommendation. A State that approves GNSS-based operations should ensure that GNSS data relevant to those operations are recorded.”

Extracted from Chap. 2, Par. 2.1.4.2 of [3]

“In order to be able to conduct post-incident/accident investigations, it is necessary to record GNSS information both for the augmentation system and for the appropriate GNSS core system constellation used for the operation. The parameters to be recorded are dependent on the type of operation, augmentation system and core elements used. All parameters available to users within a given service area should be recorded at representative locations in the service area.”

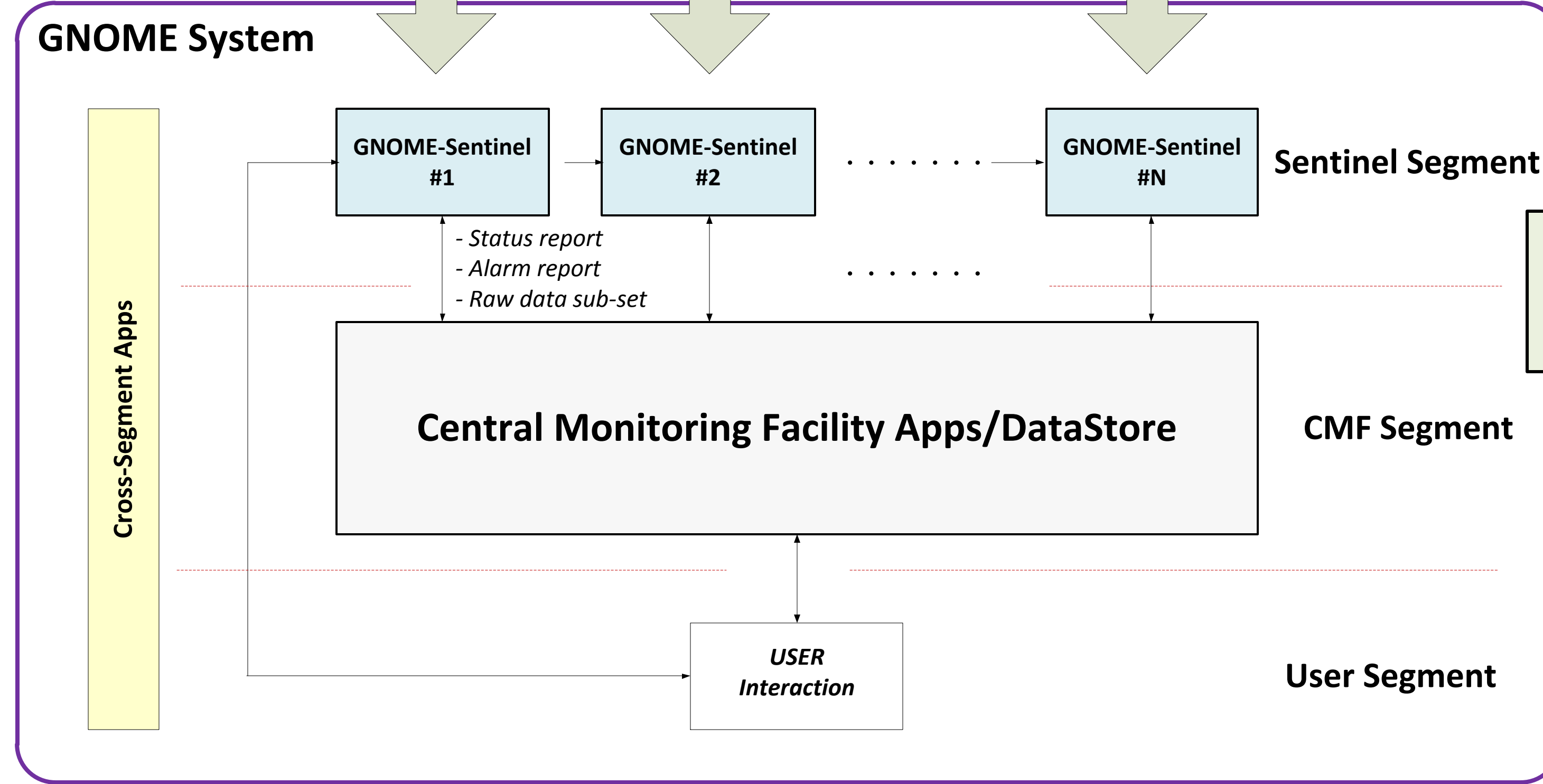
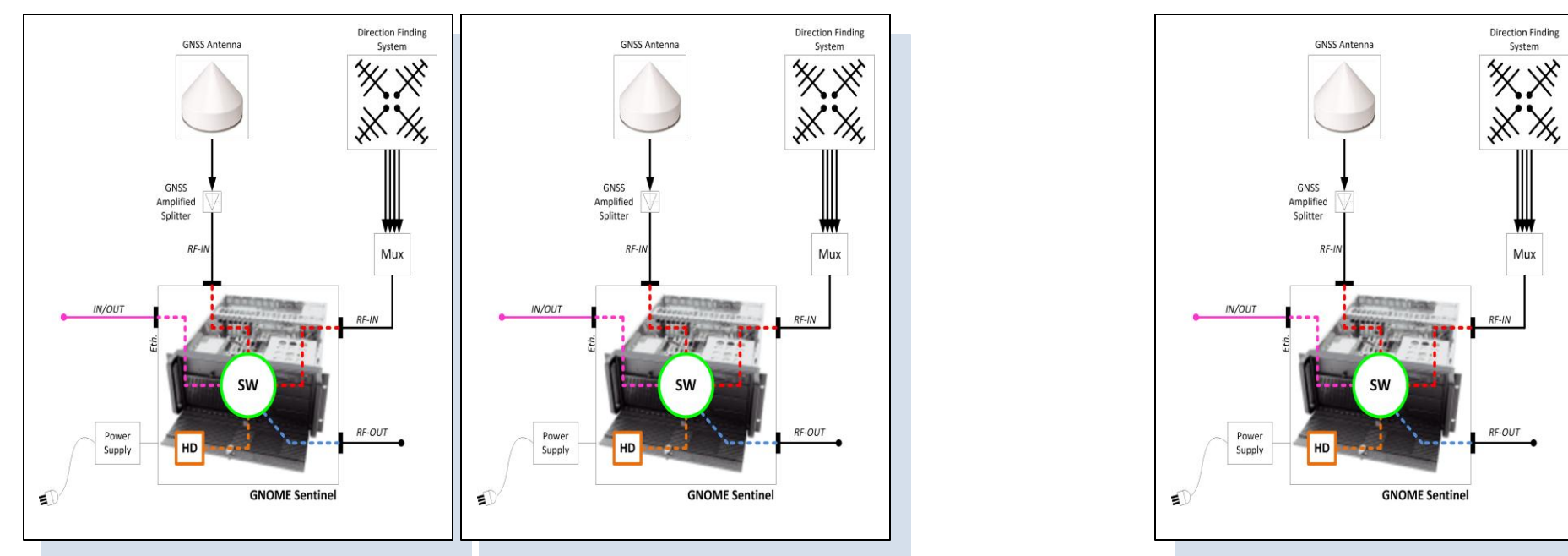
Extracted from Att. D, Par. 11.1 of [3]

“Reliance on GNSS will require States to re-examine their respective capabilities to detect, localize and identify interference sources in order to minimize potential service disruption in their flight information regions. This examination may result in planning efforts to investigate [...] ground-based systems for detecting and localizing potential sources of interferences (RFI) to the GNSS signals.”
“In order to identify and mitigate GNSS interference, a suite of systems may be required. Current technology provides RFI direction finding (DF) and localization capabilities [...]”

Extracted from Att. 3, Par. 4.2 and 4.3 of [14]

“At airports with high traffic that rely on GNSS as the navigation means for approach, it may be desirable to deploy a permanent interference monitoring station. In this way a timely notification of the interference threat can be forwarded to the authorities of each State that are concerned with GNSS integrity.”

Extracted from Att. 3, Par. 4.9 of [14]



Real-Time, Virtual-Time and Statistical GNSS Infrastructure Analysis from Navigation to PHY

Real/Virtual-Time Inspector

Menu Bar

Summary of Main Measured Data: measured/true position, hor./ver. deviations, xDOP, xPL

Integrity Alarms: interferences, spoofing, multipath, RAIM, protection levels, ...

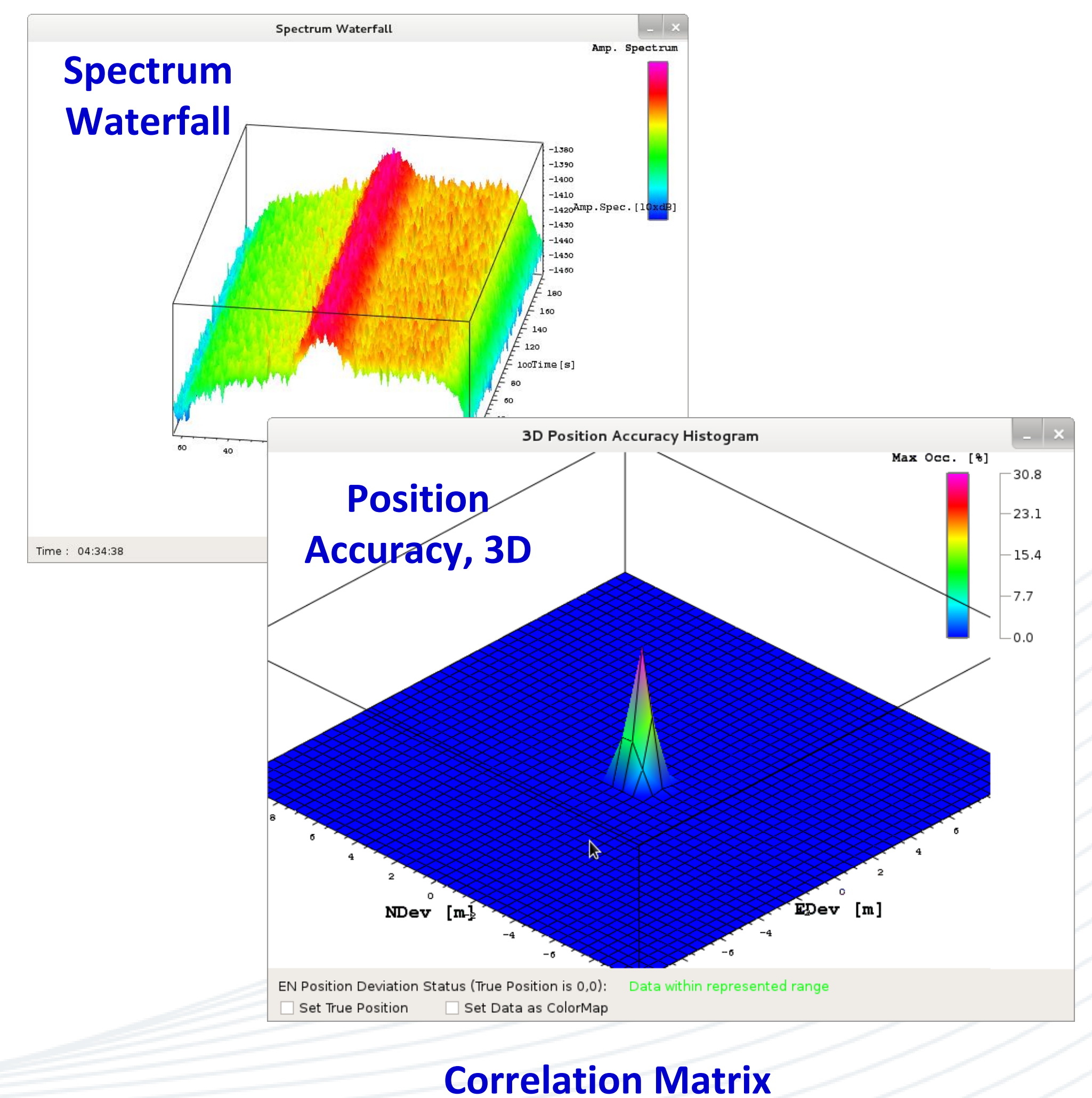
GPS/SBAS Signal Level (carrier-to-noise ratio dB-Hz)

Interferer Direction Finding

Live Received L1 Spectrum (Bw ≈ 8 MHz)

Satellite Sky-Plot

Virtual-Time Navigation Bar



SBAS Service Analysis

Residual Matrix

