

LCI-X Crucible 2-26 / FIN NIR: SAPIENT Data and Interworking

Storage, reuse and high-degree interworking of standardized sensor-to-C2 data (STANREC / AEDP 4869, Protobuf over TCP)



Data storage and capture

SAPIENT captured at the edge and written to S3 as ICD-conformant records: timestamps, node and system ID, status and health, detections and tracks. DEFINE S3 holds raw and operational data, MAVEN / AWS S3 holds fusion outputs and mission replay, stored alongside CoT.

4-26: keep S3 capture across DEFINE and MAVEN as the standing record for every run.



Data reusability

The full 2-26 S3 set, live and simulated, is reusable for later testing and validation. Mission replay, post-mission evaluation and algorithm validation run on recorded scenarios, with new environments (TAK, SAPIENT simulation) built directly on it and reflected in Foundry.

4-26: reuse 2-26 S3 data directly for further validation (like DiBaX), without re-collection.



High degree of interworking

One middleware-based path for multi-vendor sense, decide and effect, with protocol translation and routing across SAPIENT, ASTERIX, CoT and JREAP-C. Usable operational data is the gate, not network connectivity alone, because 1-26 showed connected did not mean interoperable.

4-26: mandate SAPIENT as the entry gate for every participating node.

Data flow Edge sensors → SAPIENT edge nodes → TAK fusion nodes → SAPIENT middleware / data broker → DEFINE / MSS