



watchkeeper data-link emulator (WDLE)



project synopsis

Watchkeeper is an Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) system with the primary task of addressing the need for Image Intelligence (IMINT) collection on the battlefield.

Ultra Electronics contracted Igence to develop an emulator of their radio-data-link equipment for communications between the Unmanned Aerial Vehicles (UAVs) and ground stations.

The primary purpose of our Watchkeeper Datalink Emulator (WDLE) was to allow integration and test of the Watchkeeper project components prior to availability of the operational radio-data-link.

the
adaptable
software
people



implementation description

Our first task was to understand the data structure component and develop a syntax parser which would allow Ultra to finalise the protocol post delivery of the software / hardware.

Igence was then required to simulate any conditions or actions that could influence the UAV during its operation, these included:

- Weather - Temperature/Atmospherics.
- Range - Signal Loss or Gain.
- Power Fluctuation - Overload or Drain.
- Probability of corruption - data Integrity/Encryption.

client benefits

- Igence ability to understand and transfer the complex needs of the client into working functionality.
- Igence ability to introduce a cost saving by utilising the same development to test and prove the radio equipment on the ground as in the air.
- Igence development methodology enabled the client the freedom to re-issue the interface definition without the need for further software changes, resulting in a huge cost advantage.



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