CURTISS-WRIGHT

DEFENSE SOLUTIONS

USE CASE

ADVANCED TACTICAL DATA LINK GATEWAY FOR THE MODERN WARFIGHTER

CHALLENGE

- Traditional TDL gateway systems are too large to carry
- They are too difficult to use
- Traditional equipment isn't rugged enough for harsh environments

SOLUTION

- Small form factor (SFF) solution
- Easy-to-use system anyone can operate
- Rugged commercial off-the-shelf (COTS) hardware and software

RESULTS

- Minimal personnel required
- Reduced training needed
- Significant SWaP reduction with very rugged form factor

Parvus DuraCOR 8043

CHALLENGE

Modern warfighters depend on timely, accurate data to carry out their missions. This mission critical data used by military organizations around the world is reliably and securely shared across tactical data links (TDLs). Data can come from any number of sources, such as air, ground, or sea platforms. However, because different devices use different TDL types for communications, a highly sophisticated TDL gateway is required to translate information across all of the various link types.

Unfortunately, there has been a huge disconnect between historical TDL gateway designs and modern military requirements. Existing gateway systems can be the size of a small refrigerator mounted on a trailer that is towed behind a land vehicle or placed in a large aircraft. Additionally, they are notoriously difficult and time-consuming to set up, configure, and operate. These legacy gateways were intended to be used behind the scenes at Air Operations Centers (AOC) and Control and Reporting Centers (CRCs) by teams of highly experienced experts working in a controlled environment. They were not designed for use by warfighters who are actively engaged in mission activities at the tactical edge of the battlefield.

It simply doesn't make sense for warfighters to haul around heavy, cumbersome equipment that they don't have the knowledge, skills, or time to operate. Often, when military equipment is difficult and time-consuming to use, it gets left behind. Instead, warfighters need a TDL gateway that is so easy to set up that anyone with minimal

training can simply push a button to start the gateway and have the system become fully operational within a few seconds. In addition, the gateway device must be capable of setting up connections to all data links, including radio configuration management settings, without additional effort or input by experts.

SOLUTION

Curtiss-Wright understands warfighter expectations and the need to put instant and easy access to information at their fingertips. That's why we developed the TCG® HUNTR™ TDL Hub and Network Translator. It follows a holistic and user-centric approach to the many issues in legacy TDL gateways and the challenges those issues create for warfighters.

TCG HUNTR supports automatic routing, forwarding, and translation of J-Series, K-Series, CoT, and CESMO messages. It also automates processing and translation of multiple, simultaneous Digitally-Aided Close Air Support (DACAS) missions between ground JTAC kits equipped with VMF or CoT radios and air/land/sea Link 16 assets. TCG HUNTR automatically converts VMF 9-lines into multiple Link 16 messages. It also updates and maintains Link 16 PPLI and surveillance tracks and command and control (C2) messages. It can run on any modern Windows 10 computer, including laptops, which makes it highly portable and easy to use.

When the TCG HUNTR software is installed on the Parvus® DuraCOR® 8043 mission processor, you get the advantages of a rugged commercial off-the-shelf (COTS) modular computer subsystem with the benefits of a small form factor (SFF), SWaP-optimized solution that is less than 5% of the weight of a traditional TDL gateway.

Prequalified to MIL-STD-810G/461/1275/704 and other standards, the Parvus DuraCOR 8043 delivers a quad-core (8-thread), Intel® Xeon® processor with Mini-PCIe and PCIe104 expansion slots to support platform-specific add-on I/O module rapid integration without traditional developmental NRE expense to reduce program risk, cost and schedule impact for customer-tailored Modified COTS (MCOTS) variants.

By using a Ground Vehicle Display Unit (GVDU) to display the HUNTR software running on the Parvus DuraCOR 8043 mission computer the operator can use the touchscreen or dedicated bezel buttons to easily communicate with the mission computer and transfer messages to personnel on foot or on-board other platforms. The bright, crisp, high contrast GVDU is engineered for ground vehicle requirements and delivers the functionality warfighters expect in the SWaP-C system integrators require. The projective capacitive (PCAP) touchscreen offers operators the intuitive multi-touch interface they are familiar with, a range of views like picture in picture, and reliability with both wet or gloved hands.

RESULTS

Combining the HUNTR TDL Hub and Network Translator with a rugged COTS SFF DuraCOR 8043 mission computer and a GVDU mission display means that modern warfighters now have a TDL gateway that can be successfully used at the tactical edge of the battlefield. It's suitable for all military environments with minimal training and almost no expertise required.

Curtiss-Wright's unique understanding of warfighter requirements, proven TDL competence, deep technology expertise, and long history of industry leadership and innovation has made us the trusted, proven leader in defense and aerospace. With TCG HUNTR, DuraCOR 8043, and GVDU Curtiss-Wright continues to demonstrate our commitment to resolving the most difficult challenges warfighters face today and tomorrow.

Ground Vehicle Mission Display (GVDU) showing TCG HUNTR Software