ASSOCIATION OF OLD CROWS

Chesapeake Bay Roost Newsletter

July, 2025

This Issue:

- Scene emulation technical talk completed May 29
- Army- lets delete the radios!
- Two local scholarships Awarded!
- Army- Advancing ground: EW operations in real time
- Chesapeake Bay chapter booth at 26 June MCPA Hammercon event https://www.milcyber.org/hammercon

Upcoming Events

Please mark your calendars for our upcoming events:

July 24, 11:30AM: Topic: RF Signal Processing Using AMD AI Engines - Accelerated SAR Processing Maximizing Versal Silicon Resources and Power, BLT Inc

BLT EXCELLENCE BY DESIGN

Johns Hopkins University APL
11100 Johns Hopkins Rd, Laurel, MD
Kossiakoff Center KC7/8 Rooms

RSVP for in-person by Evite
https://evite.me/NUEQZT6Qt1

Also on Zoom:
https://jhuapl.zoomgov.com/j/1602611546?pwd=bPJsjkyOeoWPcYDbeYBRxnlsPCCagE.1

Aug 14, 11:30AM: Topic: A Review of Electronic Enclosures & Thermal Management, nVent Schroff

nVent | SCHROFF

Johns Hopkins University APL
11100 Johns Hopkins Rd, Laurel, MD
Kossiakoff Center KC7/8 Rooms

RSVP for in-person by Evite:
https://evite.me/wZHXaGFwwQ

Also on Zoom:
https://jhuapl.zoomgov.com/j/1611780277?pwd=izcq5a20wf7Jw93YGHD16aqdDGX8FX.1

Thanks to Our Chapter Sponsors!

Our chapter provides scholarships to local youth and chapter events for EW professionals. These activities quickly exceed what the chapter can achieve simply on AOC national chapter funds. We are truly thankful for Axillon Aerospace (previously Parker Meggitt), Annapolis Micro Systems, and Keysight Technologies for contributing financially in support of these endeavors. Please consider working with them for your product needs.

AXILLON AEROSPACE

https://www.axillonbaltimore.com/
Previously Meggitt Baltimore, Inc.
3310 Carlins Park Drive, Baltimore, MD 21215

Annapolis Micro Systems

https://www.annapmicro.com/
190 Admiral Cochrane Dr Ste 130, Annapolis, MD

KEYSIGHT TECHNOLOGIES

www.keysight.com
1900 Garden of the Gods Road, Colorado Springs, CO

We are seeking financial sponsorship to support our club activities and scholarship benefits we provide to the community. Please contact the board at AOC.ChesapeakeBay@gmail.com for reasonable rates.

Chesapeake Bay Roost Newsletter

Note: The content of articles is taken directly from open source, unclassified materials cited below each article for the purposes of stimulating relevant EW discussions between chapter members.

Army May Delete the Radio… Replacing it with an "End User Device"

The Army's Next Generation Command and Control (NGC2) architecture is looking to modernize communications at the tactical edge by deleting the radios and replacing them with smartphone-like devices. The approach is meant to be more agile with software-based architectures. [1]

"The fundamental difference [between the existing network and NGC2] is in that data and transport layer because we are convinced that if we get that part right, there will be a day when our soldiers, instead of carrying … the batteries, the multiple radios that are out there, it's an end user device at the edge and that is all that they're going to need for the next fight," Gen. James Mingus, Army vice chief of staff, said Tuesday at an event hosted by AUSA. "No more radios, no more batteries, because all I'm carrying is an end user device on the edge."[1]

"When a soldier logs into their NGC2 splash page, they are met with a series of applications they can click such as intelligence, maneuver, fires, protection, sustainment, C2 and information advantage — as well as an operational modeling tool to provide courses of actions using machine learning capabilities based on the available data in the system. The data that a unit, such as a division, consumes and generates flows into one integration layer where ML tools curate it before users interact with it. Moreover, there is a common operational picture with map overlays that forces can see."[2]

1st. Lt. Michael Austin, platoon leader for Attack Co., 1-503rd Inf. Regt., 173rd Airborne Brigade, uses the End User Device (Photo From (1))

"Soldiers indicated that the typical game of "Telephone" on the battlefield has the potential to be eliminated. For example, in some cases, drone feeds were siloed within the intelligence personnel on staff who then had to pass that information to the maneuver personnel either digitally or over radio. But now, that information can be readily available to all."[2]

The concept sounds like a distributed network. In the future, instead of using individual radios, forces will move radio frequency signals from point A to point B through "pucks on trucks," Mingus said.[1]

"Anything that moves, it's got a puck on it that emits, it's bringing in the long-haul comms, and then it's establishing that terrestrial-based mesh through a series of pucks that are on the battlefield that then connects to the end user device," he said.[1]

A few observers of the approach warn it may result in the Army not having enough diverse communication paths, what is called PACE, or primary, alternate, contingency, and emergency.[1]

We thank one of our chapter members for bringing this article to our attention!

(1) https://defensescoop.com/2025/04/22/army-could-be-eliminating-radios-at-tactical-edge-gen-mingus/
(2) https://defensescoop.com/2025/03/20/how-army-built-next-gen-command-and-control-ngc2/

Note: The content of articles is taken directly from open source, unclassified materials cited below each article for the purposes of stimulating relevant EW discussions between chapter members.

Army Pursues Methods to Rapidly Evolve On-the-ground Electronic Warfare Operations

A large cross functional team of the Army participated in Project Convergence enhancing electromagnetic support, attack, and electronic protection. The approach is to break out of the previous silos and deliver the capability when it is needed to ground forces by shifting from platform-centric to payload-centric methods. This means effects can be employed rapidly with minimal efforts by operators.

At the event, forces used the Terrestrial Layer System (TLS) Manpack, produced by Mastodon Design, LLC, a CACI subsidiary. The hardware enhances a soldier's capability, allowing them to obtain signal intelligence, including direction finding, as well as on-the-move jamming capabilities.

The TLS Manpack solution consists of Kraken (left) and Beast+ (right) as shown at the CACI booth at AUSA. (From 1)

Rapid updates are a key feature of the program. A common issue across Army/Navy/Air Force is the ability to maintain an updated threat RF library. "When a signal is discovered that isn't in a unit's library of known capabilities, it previously could take several months to process and classify it to develop a countermeasure. The U.S. military is seeking a reprogramming enterprise that can do that work in hours and, in some cases, at the tip of the spear on the battlefield as opposed to sending the signal back to a static, remote location."[1]

The work will continue with frequent events demonstrated in realistic operational environments. Cyber Quest 2025[2] is the next national-security event that brings together the private sector, government, and academia to evaluate, develop, and benchmark cutting-edge technologies to address critical gaps in cybersecurity, electronic warfare (EW), intelligence, and signal operations.

We thank one of our chapter members for bringing this article to our attention!

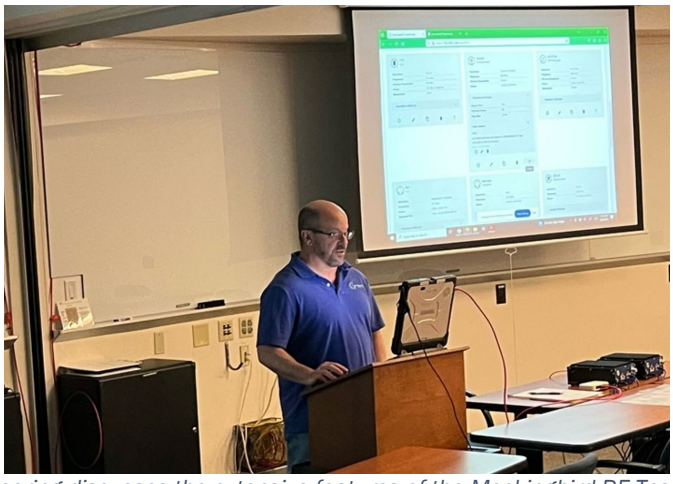
(1) https://defensescoop.com/2025/04/15/army-project-convergence-electronic-warfare-concepts/
(2) https://sam.gov/opp/0da5c7f461f848cb9333c4765c8fae69/view

Chapter Scholarship Update

Our Roost selected a students from Western School of Technology and Atholton High School to award our scholarships. The candidates had outstanding essays that highlighted their interests in pursuing a STEM path in college. Hopefully one day they will contribute their skills to the challenges of Electronic Warfare!

Emulated RF Scenes for Dynamic Spectrum Testing and RF Machine Learning Training Technical Talk Held on May 29th

On May 29, our local roost members enjoyed a technical talk by Jim Costabile of Syncopated Engineering. He described the creation of realistic RF scenes to emulate RF environments that include a variety of narrowband and wideband signals and random traffic patterns. An RF learning approach that assimilates the spectral and temporal characteristics directly from actual RF environments was shown, enabling the creation of RF scenes that mimic the actual RF environment and enabling cost-effective, repeatable test scenarios with the same complexity and rich expressiveness of actual operational RF environments. RF learning advantages were discussed, including the cost-effective generation of the massive RF data sets required to train, validate and test new innovative RF Machine Learning (ML) algorithms.



Jim Costabile of Syncopated Engineering discusses the extensive features of the Mockingbird RF Test System that can serve as a traffic emulator as well as signal capture functions during hist technical talk May 29

Two More Technical Talks Before the Next Newsletter!

July 24, 11:30AM: Topic: RF Signal Processing Using AMD AI Engines - Accelerated SAR Processing Maximizing Versal Silicon Resources and Power, BLT Inc

Abstract:
Synthetic Aperture Radar (SAR) systems demand exceptional performance, and that means making the most of your silicon. This talk by BLT explores how AMD Versal AI Engines can be leveraged to accelerate SAR processing and maximize RF signal processing performance. Learn how BLT optimized for power and resource utilization while taking full advantage of Versal's heterogeneous architecture. If you're working with radar, EW, or other high-throughput RF systems, this session will show you the potential to unlock greater efficiency and capability in your designs.
Johns Hopkins University APL 11100 Johns Hopkins Rd, Laurel, MD Kossiakoff Center KC7/8 Rooms

RSVP for in-person by Evite
https://evite.me/NUEQZT6Qt1

Also on Zoom:
https://jhuapl.zoomgov.com/j/1602611546?pwd=bPJsjkyOeoWPcYDbeYBRxnIsPCCagE.1

Aug 14, 11:30AM: A Review of Electronic Enclosures & Thermal Management, nVent Schroff

Abstract:
Schroff will review their product offering, including cabinets, racks, systems (VME, VPX, PCIe, PXIe), board retention, and thermal management. Provide insight on new internal developments with PXIe and thermal cooling solutions.
Johns Hopkins University APL 11100 Johns Hopkins Rd, Laurel, MD Kossiakoff Center KC7/8 Rooms

Johns Hopkins University APL
11100 Johns Hopkins Rd, Laurel, MD
Kossiakoff Center KC7/8 Rooms

RSVP for in-person by Evite
https://evite.me/wZHXaGFwwQ

Also on Zoom:
https://jhuapl.zoomgov.com/j/1611780277?pwd=izcq5a20wf7Jw93YGHD16aqdDGX8FX.1

AOC Chesapeake Bay chapter is participating in the Military Cyber Professional Association (MCPA) Hammercon event on 26 June at APL Kossiakoff Center. If you are planning to attend, please stop by our event table and say hi.
https://www.milcyber.org/hammercon

Advertise Your Company Here!

Did you know as of 03/09/24 this Chesapeake Bay Roost has over 447 current members in its database?

Our membership represents major EW centers in this area, including:

- Axillon Aerospace (formerly Parker Meggitt)
- BAE Systems
- Boeing
- Booz Allen Hamilton
- CACI
- CEA Technologies
- Johns Hopkins Applied Physics Laboratory
- Multiple branches of the Department of Defense
- Northrop Grumman Corporation
- Rohde & Schwarz
- Raytheon
- Textron Systems
- WGS Systems
- And many others!

We are seeking sponsorship to support our club activities and scholarship benefits we provide the community.

Space is available here to target your advertisement/ announcements to our select membership!

Please contact the board at AOC.ChesapeakeBay@gmail.com for reasonable rates

Advertise Your Company Here!

Follow the Chesapeake Bay Roost

https://www.facebook.com/profile.php?id=61551521264680

www.linkedin.com/company/association-of-old-crows-chesapeake-bay-roost

https://twitter.com/AOCBayRoost

https://www.instagram.com/aocbayroost/

Chesapeake Bay Roost Representatives

President:	Jon R Ward
Vice President:	Jane Gilligan
Treasurer:	Niels G. Eegholm
Secretary:	Joseph Sluz
Awards/Scholarships:	Paul Kennedy
Directors:	Sunita Bhatia, Niels G. Eegholm, Chris Farrier, Joseph Sluz

AOC.ChesapeakeBay@gmail.com

AOC Events

July 9-10
EW Capabilities & Gaps
Crane, Indiana

July 23-24
First annual EMSO Research Conference (EMSO ReCon)
Atlanta, Georgia

October 28-29
Cyber Electromagnetic Activity (CEMA)
Belcamp, Maryland