

NTIA and Department of Defense Announce Final Winners of the 2022 5G Challenge

NTIA, Office of Public Affairs

WASHINGTON – Today, the National Telecommunications and Information Administration (NTIA), in collaboration with the Department of Defense (DoD), announced three winners from stage three of the 2022 5G Challenge. Capgemini Engineering, Radisys Corporation, and Mavenir Systems, Inc., each received \$250,000 for successfully developing a fully integrated multivendor end-to-end 5G network.

The three-stage “[5G Challenge Preliminary Event: RAN Subsystem Interoperability](#) Prize Competition,” conducted at NTIA’s Institute for Telecommunication Sciences (ITS) in Boulder, Colo., aims to accelerate the adoption of open interfaces, interoperable components, and multi-vendor solutions toward the development of an open 5G ecosystem. Such an ecosystem will result in a more competitive and diverse telecommunications supply chain, lower costs for consumers and network operators, and bolster U.S. leadership in the wireless sector.

“NTIA’s cutting edge research at ITS, in partnership with federal spectrum users like the Department of Defense, is driving evidence-based policy decisions,” said Alan Davidson, Assistant Secretary of Commerce for Communications and Information. “The success of the 5G Challenge will help foster a resilient, competitive, and innovative 5G supply chain, both here at home and around the world.”

The competition was the first of two. In this first-year event, ITS offered a

\$3,000,000 prize purse to contestants who successfully integrated hardware and/or software solutions for one or more of these 5G network subsystems:

- Central Unit (CU)
- Distributed Unit (DU)
- Radio Unit (RU)

“Through the 5G Challenge and in partnership with industry, we look to develop a more secure supply chain and a robust U.S. industrial base capable of reinstating U.S. leadership in the development of trusted 5G infrastructure. This increases economic security and strengthens our national security,” said Director Amanda Toman, DoD 5G Transition Office and Cross Functional Team, Department of Defense, Office of the Undersecretary of Defense for Research and Engineering.

The first year of the competition had three stages. In stage one, competitors submitted applications to participate in the competition and were required to have one or more 5G subsystems. In stage two, each contestant’s subsystem was evaluated separately in an emulated environment.

The goal of Stage Three was to build upon stage two results and integrate multiple vendor subsystems into an end-to-end network. The stage three network successfully integrated subsystems from five different vendors: user equipment, radio unit (RU), distributed unit (DU), central unit (CU), and Core.

In true plug-and-play fashion, contestants approached network integration with no prior experience interoperating with their fellow contestants’ subsystems. The 5G Challenge provided a rigorous five-week schedule for contestants to work through diverse issues, from 3GPP software options to discrepant hardware.

Best SBOM Prize

In addition, Radisys Corporation was awarded the Best Software Bill of Materials (SBOM) prize and will receive an additional \$200,000. An SBOM is a nested inventory for software – a formal record containing the supply chain of various software components and their vendors.

SBOMs facilitate improved security via vulnerability management by identifying dependencies, patch requirements, license requirements, and risk of cyberattack. 5G Contestant SBOMs were evaluated for completeness, intelligibility, depth of dependencies listed, disclosure of known unknowns, and compliance to SBOM format standards.

This prize considered SBOMs submitted by the five contestants who won Emulated Integration Prizes in Stage Two. Radisys Corporation's win recognizes their comprehensive, informative, and high quality SBOM, which went above and beyond to report vulnerability and risk.

The rules, location, and details of the 5G Challenge Final Event will be released in early 2023.

You can follow the **5G Challenge** at ntia.gov/5g-challenge.

ITS, the Nation's Spectrum and Communications Lab, supports the Department of Defense 5G Initiative through a combination of its subject matter experts in 5G and its research, development, test, and evaluation (RDT&E) laboratory infrastructure including the Advanced Communications Test Site at the Table Mountain Radio Quiet Zone.