Bandwidth Virtualization

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Topic Number: United States Special Operations Command (SOCOM) 163-005
SYSCOM: Naval Information Warfare Systems Command (NAVWAR)
www.navwar.navy.mil

Program Sponsor: PMW 160 and PMW/A 170
Other Potential Programs:
Any PM dealing with communications (e.g., Marines, Army PM Tactical Networks, Army PM DCATS, USASOC, AF DEUCSI)
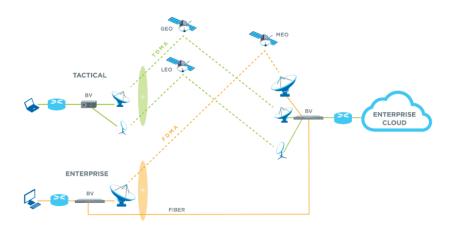
Current TRL: 7
Projected TRL: 8 / Q4 2022

Keywords:
Path Diversity, Resilient Communications, Link Aggregation

Innovation Center at 2022 Navy Gold Coast

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THE CHALLENGE

CloudJuncxion's Bandwidth Virtualization (BV) addresses communications resiliency and agility in contested, denied, or operationally limited environments.

THE INNOVATION

Bandwidth Virtualization (BV) is a low-cost software-based solution that enables simultaneous exploitation of any and all available transport paths for greater bandwidth through smart aggregation and superior resiliency based on rapid detection of link outages and fast self-healing. Technology is mature at TRL 7/8 with committed transition PMs across multiple DoD organizations spanning all major branches. Sophisticated algorithms designed specifically for the challenges of tactical networks along with a feature-rich array of options that enable smart tradeoffs commensurate with mission requirements provides a compelling set of differentiated capabilities. Insertion in existing networks is greatly simplified based on its low-cost small-footprint software implementation that can be hosted in existing virtualized compute environments.

THE NAVY BENEFIT

BV technology enables superior utilization of existing communications assets on Navy platforms compared to traditional routers and SDN/SD-WAN solutions through flow-agnostic exploitation of multiple links. Key advantages are greater bandwidth, agility, and resiliency leveraging existing modems and radios without requiring acquisition of expensive communications hardware.

THE FUTURE

BV technology is in active trials and tests across multiple DoD organizations with several Phase II awards from PMs across all the major branches and an awarded Phase III contract from the Army for closing identified feature gaps. An assigned Red Team is assisting with the rapid hardening of the software for an OCONUS deployment in support of a real mission, which will also enable a TRL8 designation by Q4 '22. Technology continues to progress rapidly with major new features in the R&D pipeline for significant additional levels of integration of functionality and cost savings for DoD customers. CloudJuncxion is interested in exploring partnerships with other DoD contractors and commercial vendors for market opportunities in the communications and SD-WAN segments.