

3.1-3.45 The PATHSS Approach

(Partnership to Advance Trusted and Holistic Spectrum Solutions)

David Mueller

Industry Co-Chair of PATHSS – Classified

AT&T

Who am I?

- David Mueller
- PATHSS-C Co-Chair
- 2021 to present - AT&T Defense - Spectrum Solutions Architect
- 25 years Marine Corps (EA-6B pilot)
- Strategy lead on EMSO CFT
 - Led effort to produce EMS Superiority Strategy – October 2020
 - Led team which built Implementation Plan – July 2021

Spectrum Sharing and DoD

- DoD's EMS Superiority Strategy dedicates DoD to embracing spectrum sharing as a way of more efficiently managing domestic spectrum
 - "The Department recognizes the importance of U.S. wireless leadership to the nation's economic prosperity..."
 - "Economic growth, which includes the need for commercial EMS access, is in the national security interest of the United States"
- At high levels, DoD recognizes that spectrum sharing is necessary to retain DoD's freedom of action in spectrum
- Challenges exists inside the Department, especially in program offices

Statutory Requirement in 3.1-3.45

- Sec. 90008 of the 2022 Infrastructure Investment and Jobs Act requires the Secretary of Defense to determine which frequencies in the covered band could be eligible for shared use with flexible use, commercially licensed users
- DoD was provided \$50M from the Spectrum Relocation Fund to conduct R&D, engineering studies, planning activities, and to provide a report to Commerce
- Commerce may only identify frequencies if it “would not impact the primary mission of military spectrum users”
- PATHSS became the face of those planning activities:
 - DoD had no requirement to open this process to outside entities
 - Partnership with the NSC has combined the authority of DoD with the expertise of industry, with the aims of more accurate analysis and more efficient use of spectrum

PATHSS Goals and Objectives

- Primary objective to build TRUST between industry and DoD through Transparent process with broadest possible involvement in PATHSS, with expanded access to information (Proprietary and Controlled Unclassified Information, or CUI)
- Providing industry proprietary and classified information to a broadly-representative sub-group of PATHSS members (PATHSS-C), which collectively will offer credible representations back to broader PATHSS group
- Demonstrated, sustained engagement by senior DoD leadership
- Establish a new mechanism/forum that allows DoD and industry to Exchange proprietary, sensitive and classified information about defense and commercial spectrum operations in order to inform the development of architectures and techniques (Use Cases) that would advise the national regulatory environment

Where we are:

- Continuous leadership from DoD has been notable
- Industry proposals and working groups through the summer led to 3 quite distinct use cases (i.e., sharing proposals) for DoD analysis
 - Dynamic Spectrum Management System
 - Active RAN solution
 - 5G interference cancelation
- DoD is currently conducting analyses of each use case
 - Modeling and analysis of DoD systems and proposed commercial networks
 - PATHSS and PATHSS-C meetings allow for sharing of preliminary results
 - Will continue to share results and drafts of the report through the spring

Thoughts and Opinions moving forward

- This is DoD's chance to prove it is serious about Spectrum Sharing
 - They are taking it seriously and have put real resources behind it
 - If this doesn't produce real results its hard to imagine another chance being offered by Congress
 - Statutory intent for analysis is: "...to improve **efficiency** and **effectiveness of the spectrum use of the Department of Defense** *in order to* make available electromagnetic spectrum in the covered band." (all emphasis added)
- A timeline enabling greater sharing as technology evolves should be embraced
 - We should not be stuck with the 2023 solution until 2033
 - Timeline would commit DoD to modernization
 - Licenses could be written to evolve predictably over time
- DoD needs to deconflict in ways that may be uncomfortable
 - Adjustments to Tactics Techniques and Procedures (TTPs) and RDT&E activity
 - Technological upgrades that create deconfliction should be considered

Questions?