



Defense Spectrum Organization EMERGING SPECTRUM TECHNOLOGY



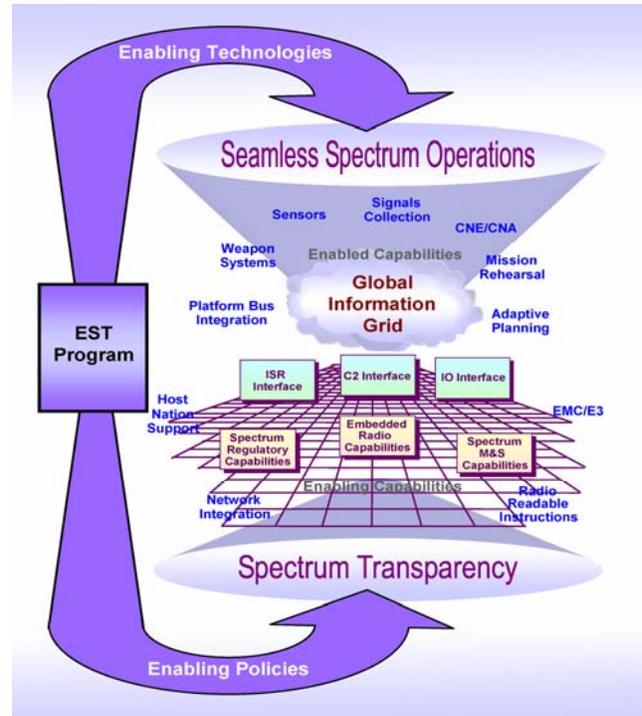
DSO Creates Solutions for Emerging Spectrum Technologies

The DSO identifies, monitors and assesses emerging spectrum technologies (EST) that pose a benefit and/or threat to DoD access to the electromagnetic spectrum. DSO conducts workshops and holds other forums to bring together DoD, academia, and industry participants to address technical, policy, and regulatory issues related to a broad range of ESTs. The main goals of the DSO EST Program are to anticipate and identify the opportunities and risks of ESTs in order to:

- Influence technology development efforts to maximize efficient use of spectrum and ensure spectrum policy/regulations accommodate the use of the technology
- Provide timely strategic guidance and recommendations to the leadership of DISA, the Services, and the Agencies
- Safeguard DoD access to sufficient spectrum to meet DoD mission requirements

Major Accomplishments

DSO works with the operational and acquisition communities to develop and implement solutions for EST that include enabling technologies, policies, and operational concepts. Our work efforts have been incorporated into DoD policy statements pertaining to spectrum efficiency, requirements for advanced web-based spectrum management services, and concepts for spectrum operations transformation and electromagnetic battle management.



DSO developed a Technology Surveillance and Monitoring Process that enables the systematic collection and evaluation of EST at various levels of detail. Products from this process include:

- Technology Tracking Matrix that characterizes the state of a broad range of technologies within a living document
- Technology Tracking Reports that address the selected technologies in greater detail
- Workshops that address radar challenges and dynamic spectrum access
- Information papers presented at the DoD Tri-Service Radar Conference and the MILCOM international conference on military communications
- Detailed assessments of various technology topics including: implications to DoD from 4G wireless technology trends, Mobile Device Management (MDM), wireless network bridging technologies and smart antennas



DSO Creates Solutions for Dynamic Spectrum Access (DSA)

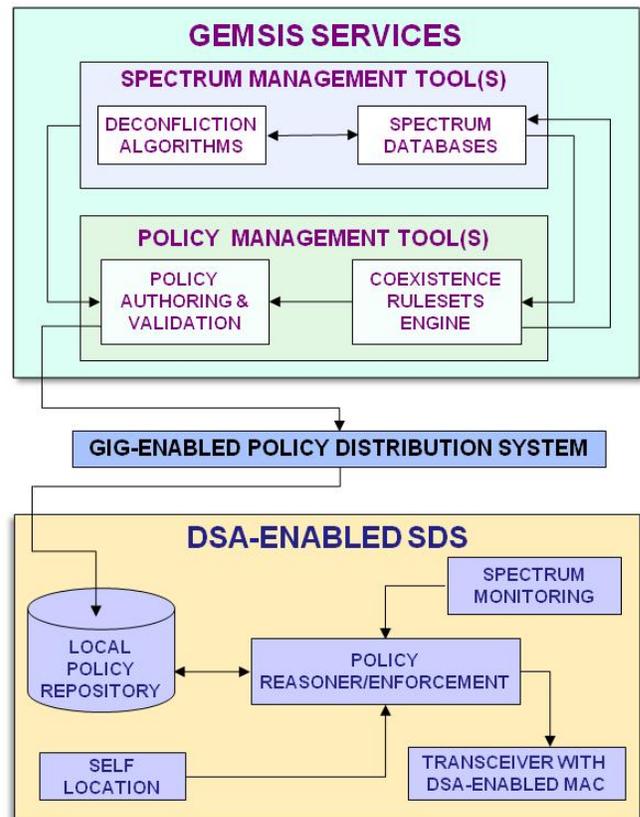
DSA-enabled spectrum dependent systems provide an evolutionary improvement in the context of today's spectrum management paradigm, and pave the way ahead for new spectrum access techniques and regulatory approaches to spectrum sharing. The DSO is working with the DoD spectrum management, operational, and acquisition communities and through collaboration with Federal, academic, and industry stakeholders to develop the required regulation and policy, technology, standards, and materiel solutions to fully exploit the promise of DSA.

Major Accomplishments

The DSO worked with the Service Frequency Management Offices to create the DoD DSA Spectrum Management Roadmap to:

- provide a description of the various components that comprise DSA
- provide a framework that will help guide the systematic planning of DSA capability development across DoD
- facilitate the effective communication and collaboration between DSA stakeholders

We have developed architectures, taxonomies, and business processes for tomorrow's DSA-enabled policy based spectrum management paradigm.



The DSO is active in standards related bodies, including the Institute of Electrical and Electronics Engineers Dynamic Spectrum Access Network efforts and the TeleManagement Forum, to ensure the interoperability of future DSA-enabled systems. We are collaborating with the National Telecommunication and Information Administration on efforts to change policy/regulations at the National level. The DSO has partnered with the Service Laboratories to develop Science and Technology Roadmaps that will produce next generation capabilities for electromagnetic battle management.

DSO Technology Points of Contact:

Spectrum Enterprise Services Director
DSN 281-4958
410-293-4958