



Enterprise Data Management (EDS) - Enabling Data Discovery and Access Across International Boundaries

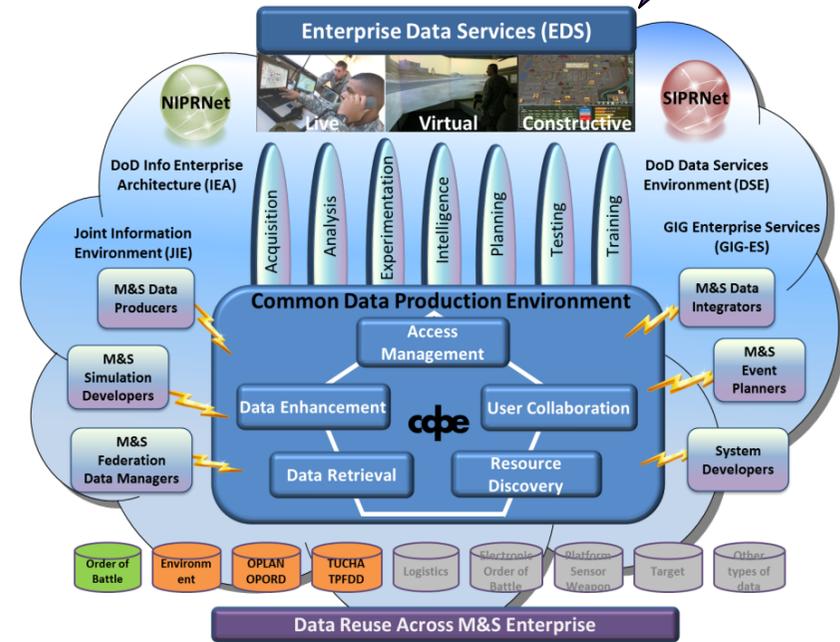
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US Army Program Executive Office
Simulation, Training, and Instrumentation

Enterprise Data Services - Need

- Warfighters greatly benefit from data for acquisition, testing, experimentation, analysis, planning, training, and operations. To realistically represent dynamic operational environment requires new and agile processes and data sources.
- Multiple scenario data generation systems exist; however, it is difficult to find, obtain, and reuse data. If you can find current data, it is difficult to obtain the data. If you can obtain the data, it is difficult to understand and transform the data for your use.
- EDS provides a M&S enterprise common data production environment that brokers access to distributed cross-community and cross-Service data discovery, retrieval, and enhancement capabilities through enterprise web services.



Enterprise Data Services

EDS

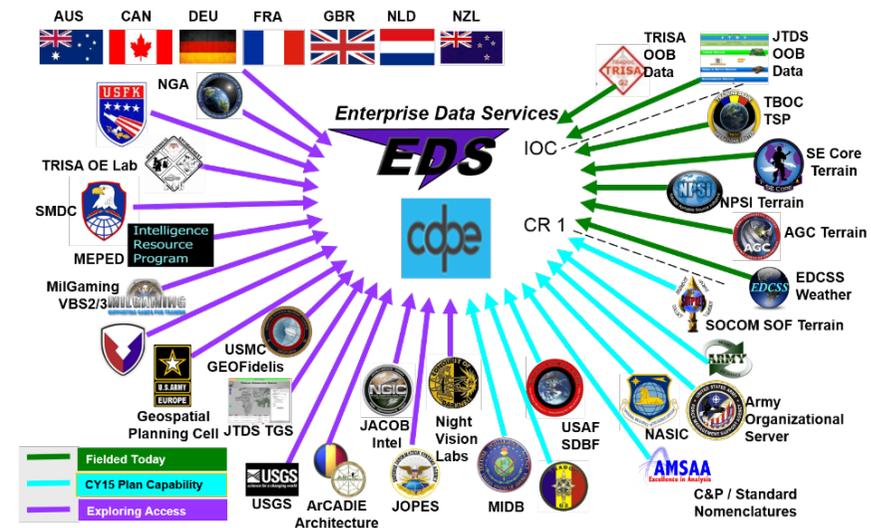
What it Is

- A “data broker”: A standards-based, service-oriented, DoD Enterprise environment that enables the discovery and reuse of data and data enrichment services.
- Google-like interface to initiate search.
- Government owned; no proprietary components (e.g., Oracle, SQL, etc).
- Built upon existing DoD/Intelligence Community (IC) metadata standards.
- The only tooth-to-tail implementation of the Net-centric Data Strategy guidance (DoD 8320-series) in the DoD.

What it is NOT

- Does not replace any DoD Community or Service data production system, data management system, or data repository.
- Is NOT a data warehouse or data lake; it does NOT hold a copy of anyone’s data.

EDS Data Provider Integration



Programmatics

- Initially sponsored by ASD(RE). IOC in 2013.
- Successfully transitioned to the Services and Joint Staff.
- Current emphasis is on M&S data, but software core is agnostic to data type.

Independent Cost Benefit Analysis (CBA) performed by AMSAA demonstrating positive ROI.

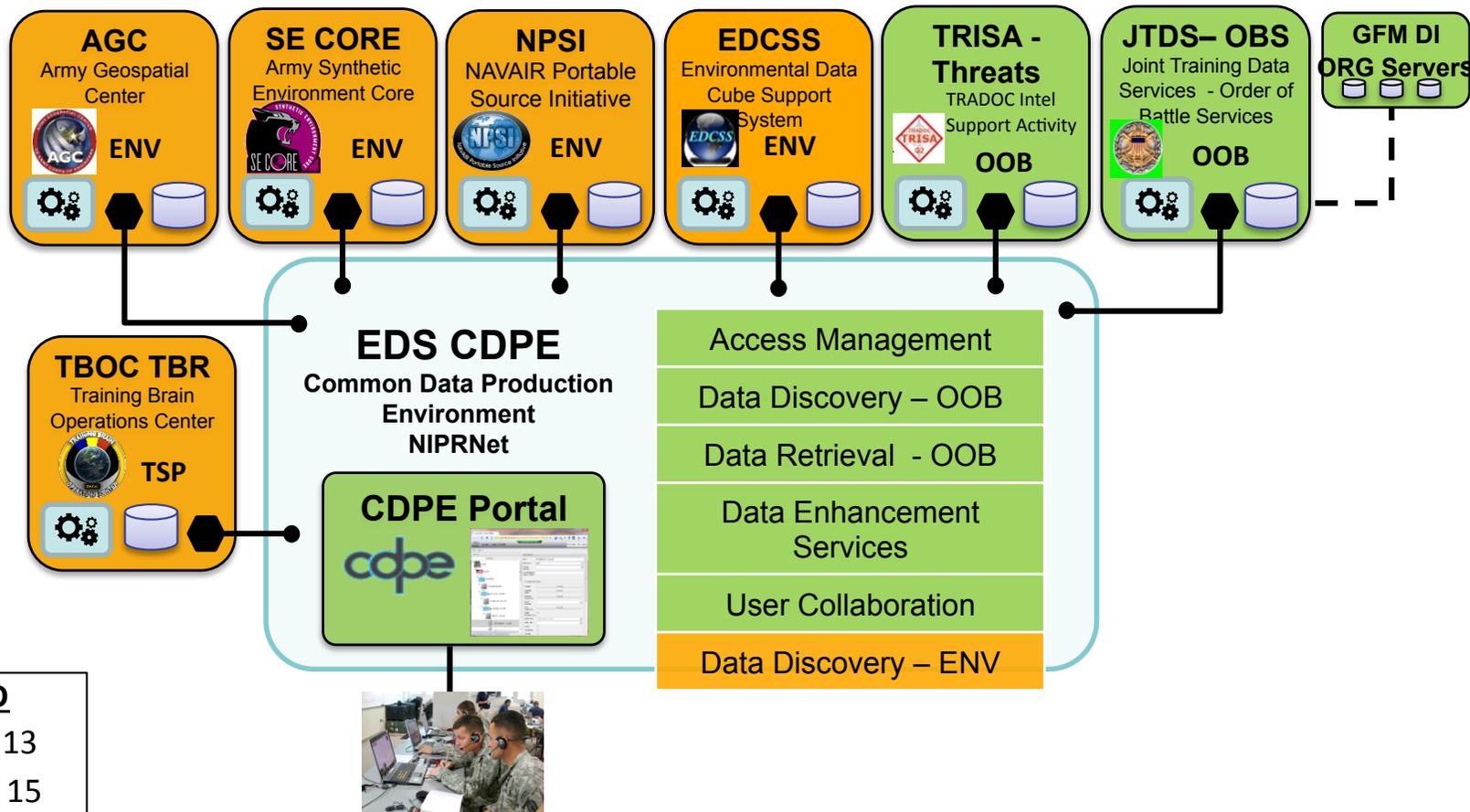
What We Are Trying to Accomplish

- Provide visibility into and access to US data sources via EDS to US coalition partners
- Make data from US coalition partners visible and accessible to both US and other coalition partners via EDS
- Venues for Collaboration
 - The Technical Cooperation Program (TTCP), Technical Panel 2, Action Area 19 - Shared M&S Resources and Technology for Training
 - NATO Modelling and Simulation Group 136 - M&S as a Service
- Influence data and process standards through international standards organizations

Value Proposition

- EDS Overall Value
 - EDS currently enables the discovery, assessment, retrieval, and transformation of data to support efforts across the DoD M&S Enterprise.
 - EDS significantly reduces the time and cost to generate and reuse M&S scenario-specific datasets.
- EDS International Participation Value
 - Data available to US EDS consumers will have value to US coalition partners for nation-specific and coalition M&S-enabled efforts
 - US coalition partners have data that would benefit US users
 - Data and process standardization leads to increased interoperability at lower cost

EDS CDPE - Today

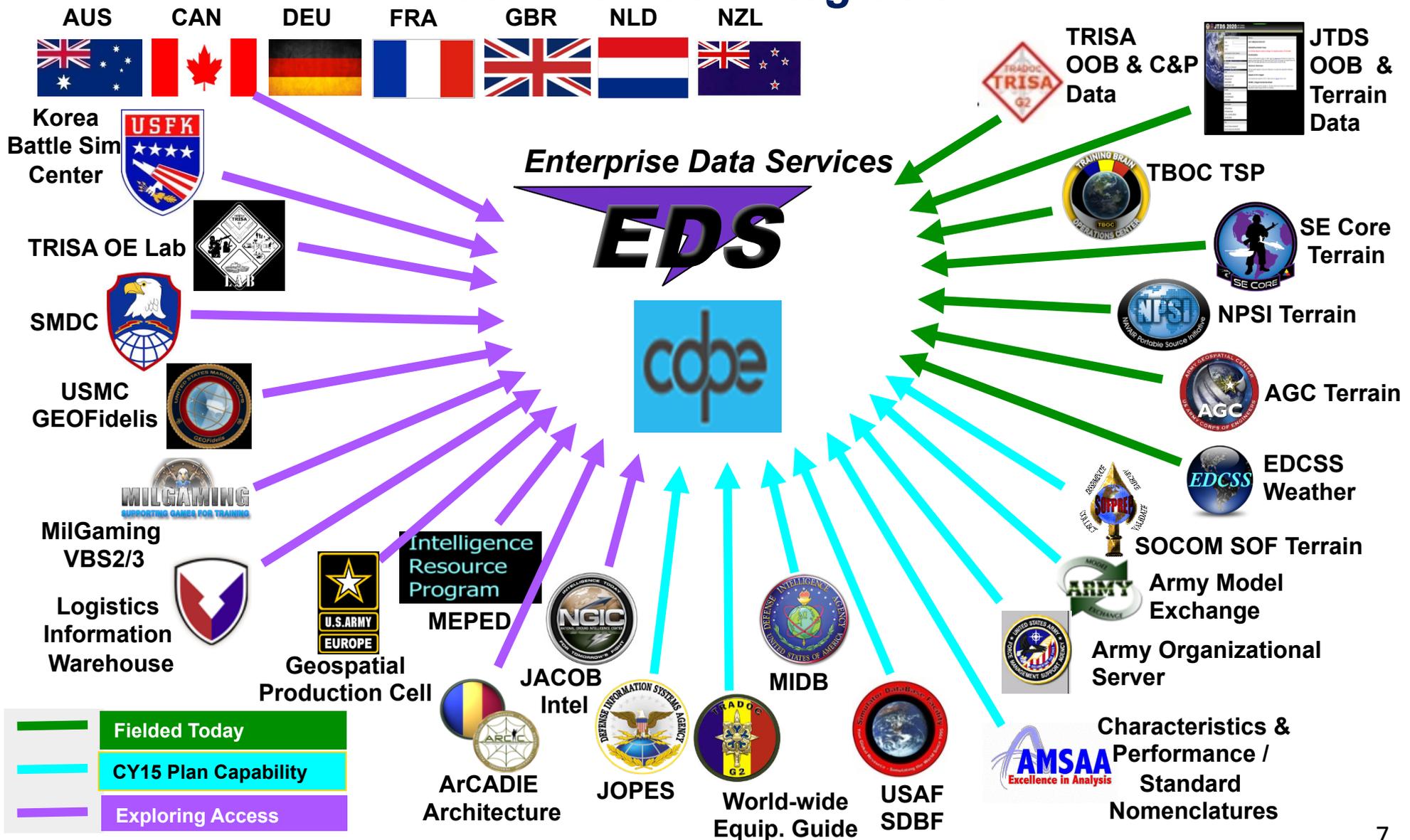


Reuse of Integrated and Correlated OOB and Environment Data and Weather Effects Generation

EDS

EDS Objective Capability

Data Provider Integration



EDS - Environmental Data Producers

- Current



- Synthetic Environment Core (SE Core) – US Army PEO STRI



- NAVAIR Portable Source Initiative (NPSI) – US Navy NAVAIR



- Common Map Background (CMB) – US Army Geospatial Center



- Environmental Data Cube Support System (EDCSS) – USAF Weather Agency

- Scheduled for 2015



- Army Model Exchange (AME) – US Army & other Services



- Special Operations Forces Planning, Rehearsal, and Execution Preparation (SOFPREP) – US Special Operations Command



- Simulator Database Facility - USAF

- To be determined

- US Combatant Command Geospatial Production Cells (GPCs)

- GEOFidelis and other Facilities Data Sources

- International Environmental Data Sources

EDS – Environmental Tools and Services

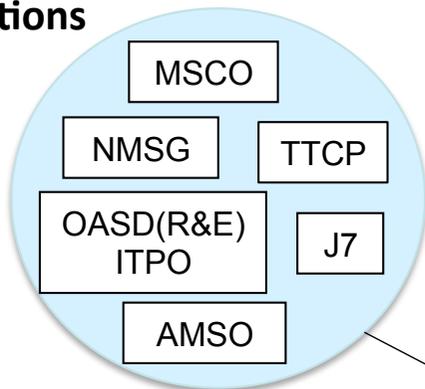
EDS

Environmental Data Tools and Services Planned to Start Engineering and Development in 2015:

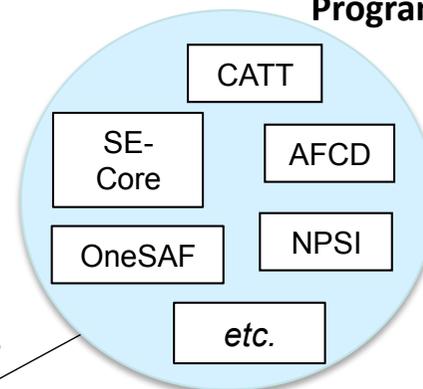
- Procedural Generation of Terrain
- Simulated Imagery
- Support for Multiple Climate Regions and Season
- Dataset specialization
- Transportation Network Tools
- Improved Data Visualization

Organizational Relationships

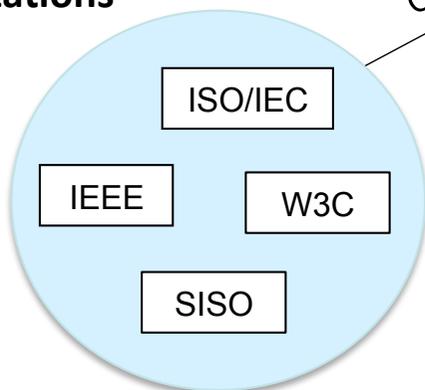
Defense Organizations



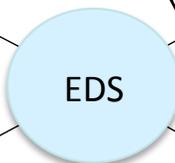
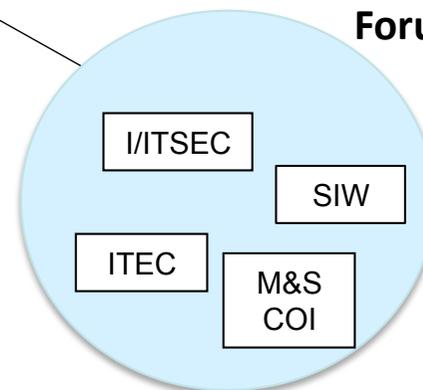
US DoD Data Programs



Standards Developing Organizations



Conferences, Forums



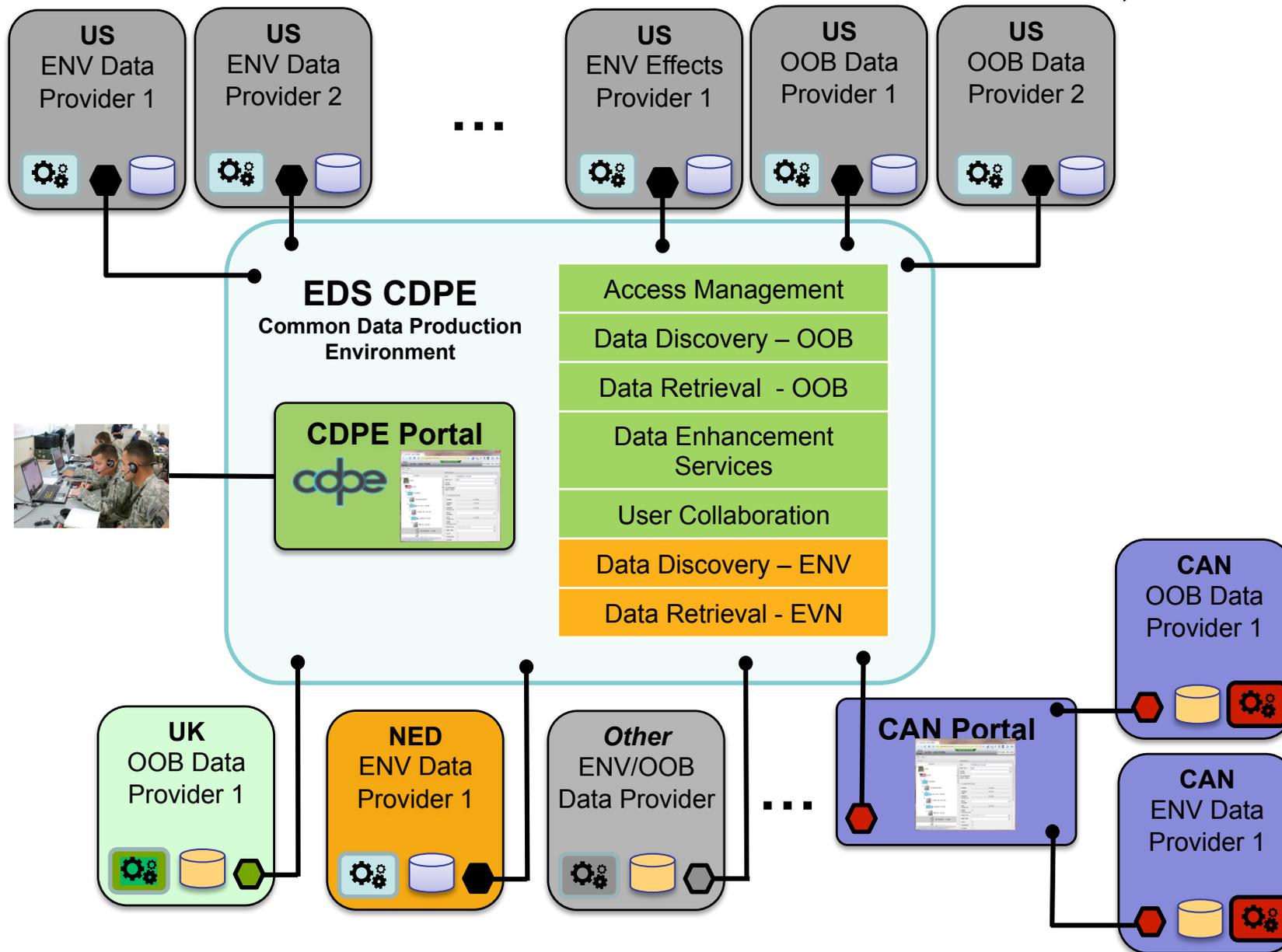
Support, Coordinate, Participate

Inter-dependent providers/users

Monitor, Leverage, Contribute

Market, Educate

Notional Architecture



Division of Responsibilities

US EDS Team

- Systems engineering lead
- Develops interfaces and metadata standards
- Provides a web-based user interface
- Harvests metadata from providers
- Passes distributed queries to providers
- Provides metadata cache
- Passes data requests with requestors credentials to providers



Data Providers

- Works with EDS team to define appropriate metadata
- Creates, maintains, and stores metadata locally
- Provides services for harvesting and/or live search of metadata
- Sets metadata access policy
- Sets data access policy
- Provides data request service
- Provides data access services

Challenges

- Ensuring that the data sharing process is consistent with US and participating laws and regulations
 - ITAR - International Traffic in Arms Regulations
 - EAR – Export Administration Regulations
- Data Exchange Agreement Persistence
 - Data Exchange Agreements typically valid for a one-time data exchange
 - For EDS to be effective
 - persistent permission to share metadata must exist
 - Persistent permission to exchange data desirable

Questions?

