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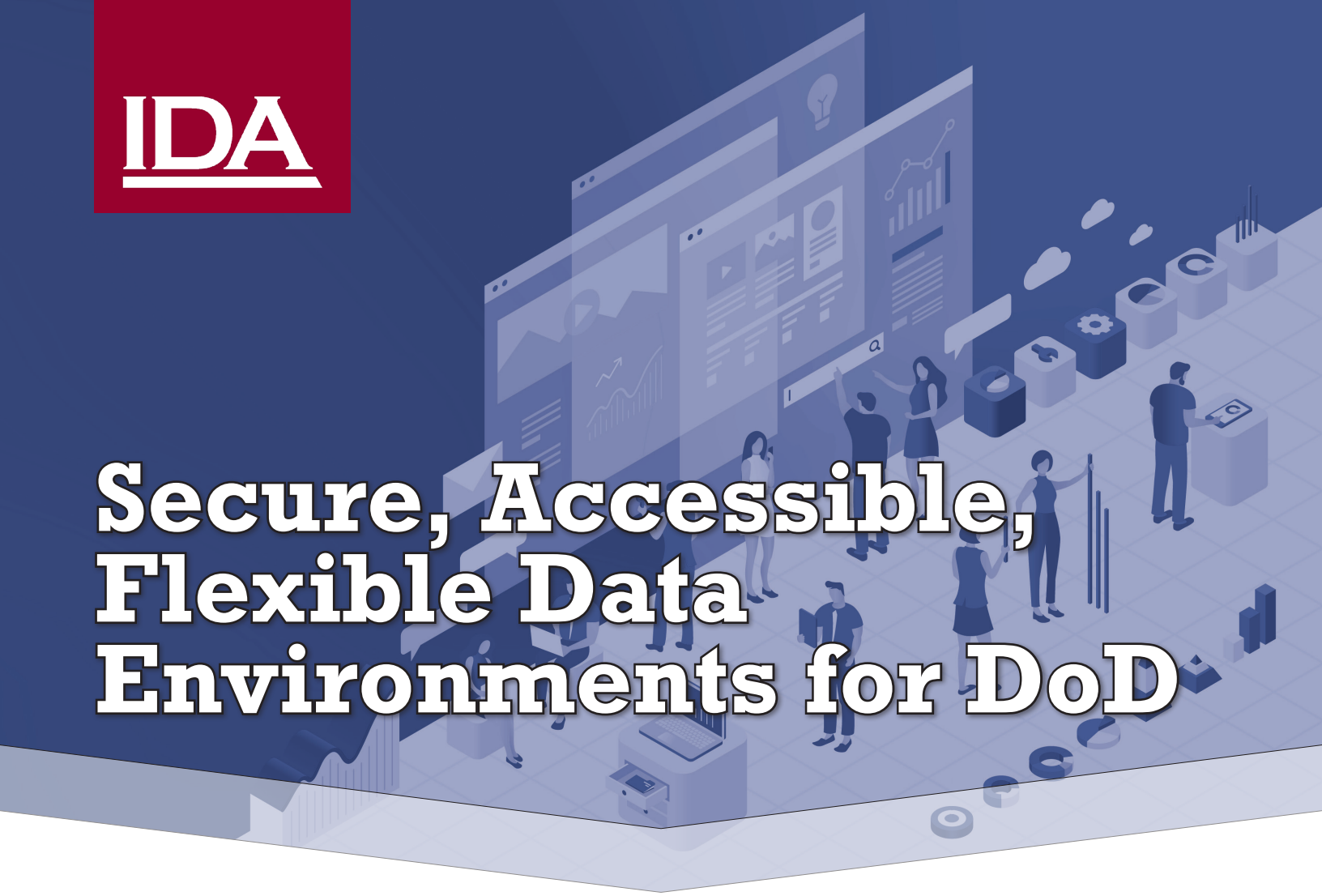

Secure, Accessible, Flexible Data Environments for DoD

Working with the Office of the Under Secretary of Defense (OUSD) for Personnel and Readiness, the Institute for Defense Analyses (IDA) conceptualized a collaborative data-hosting analytic platform known as the Enterprise Data to Decisions Information Environment (EDDIE). With EDDIE, OUSD aims to facilitate timely internal and external analyses by reducing data procurement and preparation time and improving access to computational resources while providing state-of-the-art security for sensitive Department of Defense (DoD) information assets.

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Successful execution of the complex and evolving missions of the DoD and the military departments necessitates that these organizations leverage an incredible volume of information across diverse enterprise areas, often in real time. Historically, the challenges of data access, security, organization, and integration across systems—often amplified by security-driven hardware and software restrictions—have hindered the efforts of many DoD organizations to understand and exploit the full range of information impacting their mission spaces. Only by empowering its personnel with quick, secure access to well-curated data in flexible analysis environments can DoD realize the full operational and research benefits of its rich information assets.

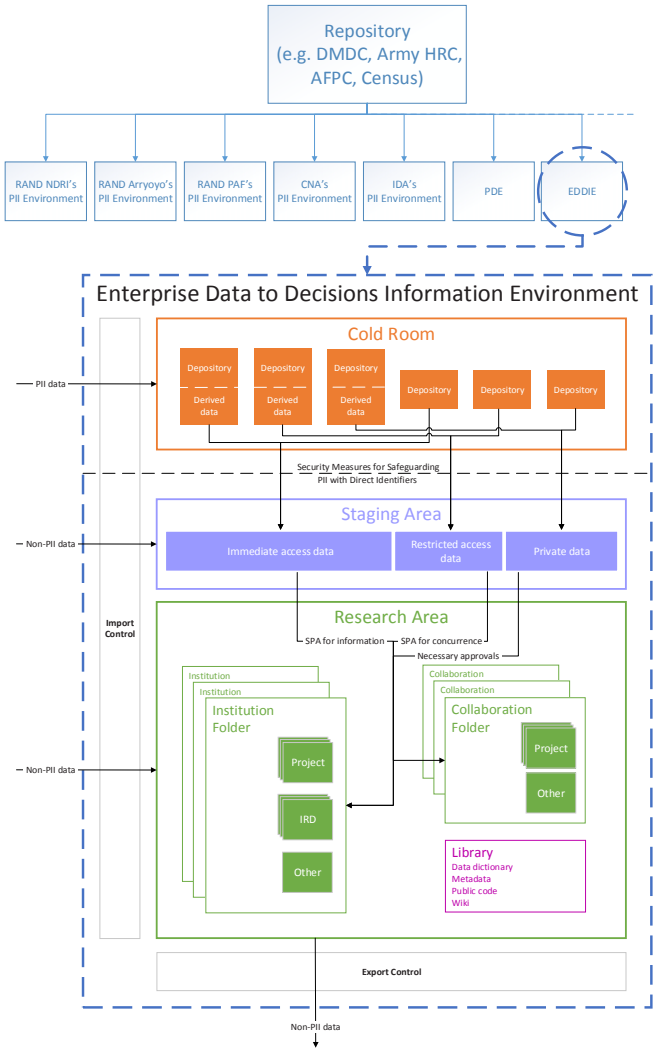
Aiming to provide a diverse community of users with rapid, secure access to DoD personnel information and modern analytic resources, IDA engaged more than a dozen analytic organizations within OUSD, the military departments, and the civilian community that support DoD to develop user and governance requirements for EDDIE.

(continued)

Collectively, analysts in these organizations expressed a strong need for timely data access, reduced administrative hurdles, adequate computational resources, and better information about the data they receive. IDA identified the following necessary environment features:

- Provide **easy access** to a broad corpus of data and metadata.
- Provide **a library with data dictionaries, metadata, public code, and fora for sharing** knowledge.
- Support continuity and **institutional memory** by enabling users to record information about data, code, results, and projects.
- Provide access-controlled project **workspaces with sufficient computing capacity**.
- Provide users with appropriate **analytic and research software** for conducting statistical, econometric, predictive, and operational analyses.
- **Enable collaboration** in workspaces among individuals within and across institutions.
- Support the **import and export of data and analysis** files, subject to security limitations, such as on personally identifiable information.
- **Streamline administrative review and approval** processes, such as Human Subjects Review.

These features will enable EDDIE users to access personnel data quickly and securely, facilitate vetting and dispersion of ideas, increase reproducibility and transparency of results, and improve responsiveness in providing actionable information to DoD leadership.



Conceptual EDDIE architecture (see IDA publication NS D-9139)

Successful implementation of any data-hosting analytic environment depends on thoughtful design, appropriate governance, and a sustained commitment from senior leadership and key stakeholders to reduce barriers to data access and improve data quality. If these criteria are met, shared analytic resources can significantly improve the efficiency and value of both internal and external DoD analyses for the next generation.

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Based on IDA P-9254, *Considerations for Implementing a Defense Personnel Research Environment*, J. Pechacek, A. Gelder, A. Romana, et al., September 2018; and NS D-9139, *User Requirements for the Enterprise Data to Decisions Information Environment,* J. Pechacek, A. Gelder, E. Novak, et al., August 2018. Research sponsored by the Office of the Under Secretary of Defense for Personnel and Readiness.