Progress® MarkLogic®

DoD Data Strategy for Data-Driven Military Operations

DATA SHEET

The DoD Data Strategy outlines eight guiding principles that, collectively, contribute to a consistent theme on the need for DoD organizations to trust in their data.

Getting to this degree of trust requires the highest level of provenance, lineage, and governance capabilities throughout the data lifecycle. And, bringing data together for enterprise-wide use requires extreme flexibility — supported by automated processes wherever possible — in how the data is ingested, curated, and delivered to serve multiple purposes. Progress® MarkLogic® helps DoD organizations apply these guiding principles in support of their missions and operations:

1 Data Is a Strategic Asset

This means curating and stewarding data for multiple present and future use cases so that data integration efforts are focused more on addressing the enterprise's pressing business and mission needs through a durable, flexible data asset than on building a series of point solutions to solve the problem at hand. The MarkLogic data platform provides robust capabilities — data ingest and discovery; data curation; and data access — to ensure data is processed and managed in a way that supports DoD's mission now and in the future. in addition, the Marklogic platform is DevOps-

focused with standardized APIs and other tools to enable fast application development and deployment to any end user environment of your choosing.

2 Collective Data Stewardship

Data integration and stewardship involves multiple stakeholders, and all of them – data architects, system analysts, mission owners, and business analysts – must be able to iteratively collaborate and apply their expertise. The simple, shared user experience of the MarkLogic Data Hub Central software makes it easy to choreograph interactions among various users of the data hub.

3 Data Ethics

Provenance and metadata features support ethical use and storage of data. These features help ensure that data is used for its intended purpose, not only by defining access rules but also by allowing tracking and auditing. Privacy and legal compliance concerns must also be addressed to ensure, for example, that citizen data is properly anonymized and that access to this data is limited to authorized persons. MarkLogic supports this within the data platform with element-level security and role-based access control along with redaction features that ensure disseminated data is properly anonymized.

4 Data Collection

MarkLogic enables tagging on data ingest to make information immediately available for search and query and to ensure data reliability. Tagging processes are enablers for data enrichment and validation. Marklogic's flexible multi-model platform enables our customers to discover and collect data and continuously add value to best inform the decision-maker, now and in the future. In addition, the Marklogic platform is DevOps-focused with standardized APIs and other tools to enable fast application development and deployment to any end user environment of your choosing.

> **"Data is a strategic asset that must be operationalized."**
>
> **DoD Data Strategy**

5 Enterprise-Wide Data Access and Availability

The key challenge here is being able to consistently and safely deliver the right data to the right people at the right time (including to personnel in environments with limited connectivity). Data silos are a big issue here: critical information is locked up within applications and out of reach for enterprise needs. With MarkLogic, you will have the tools to ingest data, curate it, apply security and governance, and easily provide secure access to all that data for both analytical and operational use cases. The MarkLogic data platform has extensive capabilities to govern and secure data in the database. It helps ensure that the right portions of data are accessible and shareable with those in and outside the organization who are granted proper access.

6 Data for Artificial Intelligence Training

Doing analytics, business intelligence, or machine learning requires having data that is accessible and high quality. Marklogic has built-in machine learning capabilities and applies them in features such as Smart Mastering, which matches and merges duplicate data. But MarkLogic also curates data for machine learning and AI applications, ensuring the data used is sufficiently high quality and trusted.

7 Data Fit for Purpose

Delivering fit-for-purpose data is best achieved by an iterative, model-driven data integration process that adheres to data sharing and data access control requirements. The MarkLogic Data Hub Central supports this, along with data provenance and search/query capabilities that present data with its full context, which minimizes opportunities for bias to creep into the analysis. Metadata – which is stored in MarkLogic along with the data itself – can also help specify how data is to be used. The platform also provides the flexibility to use multiple lenses for exploring and analyzing the whole gamut of curated data assets, with complete security and governance.

8 Design for Compliance

Data must be governable across the stack. The MarkLogic data platform tracks data and metadata together through the data lifecycle so DoD organizations can govern it all in one place rather than separately across dozens of apps. This alone brings a new level of security.

Progress MarkLogic Helps DoD And Intel Agencies Advance Data-Driven Operations

- **Defense Technical Information Center (DTIC)** MarkLogic helped DTIC make scientific and technical research discoverable, shareable and safe.

- **U.S. Marine Corps** The USMC combined Agile development and DevSecOps, along with software from MarkLogic and Appian, to replace four legacy systems, speed up workflow, and improve data quality.

- **U.S. Air Force Research Lab** The AFRL used MarkLogic to create the HyperThoughtTM data management platform — a scalable, agile, and flexible way to make exabytes of data discoverable and securely shareable for 700 scientists and engineers, with thousands more external collaborators.

- **U.S. Intelligence Agency** MarkLogic helped this agency advance integration, curation, management, analysis, and distribution of multi-source, cross-domain data for terrorist watchlisting.

- **U.S. Intelligence Agency** MarkLogic helped this agency create an enterprise repository to capture, store, standardize, and serve geoint observations from geoint sources.

- **Defense Intelligence Agency** DIA used Marklogic to advance the integration and discovery of multi-source military intelligence message traffic data for faster and more comprehensive intelligence analysis.

→ **Enable Your Data Strategy for Mission Success**

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