



ENTERPRISE DATA MANAGEMENT

Data is the lifeblood of all large enterprises. Efficiently capturing, protecting, and ensuring the quality of data are challenges that face Chief Data Officers. But effective data management also creates opportunities – new ways to share data across offices and with external stakeholders to improve coordination and data analytics that reveal previously-hidden improvement possibilities. CNA helps government agencies realize the benefits of standardized, high-quality, accessible data while managing the associated risks.

OUR SERVICES ENTERPRISE DATA GOVERNANCE

CNA helps agencies define processes and controls to maintain and then improve data quality. CNA develops enterprise data governance plans with the standards, tools, and processes needed to ensure the availability of useful enterprise data. Our governance plans clarify the responsibilities of data stewards and users; and foster continuous improvement in data management.

DATA STRATEGY

CNA takes a holistic, systematic approach that identifies strategic goals for data management and establishes a Data Concept of Operations. Understanding the mission coupled with the political landscape and stakeholder interests allows us to provide executable strategies to collect, organize, and use data.

ENTERPRISE DATA ARCHITECTURE

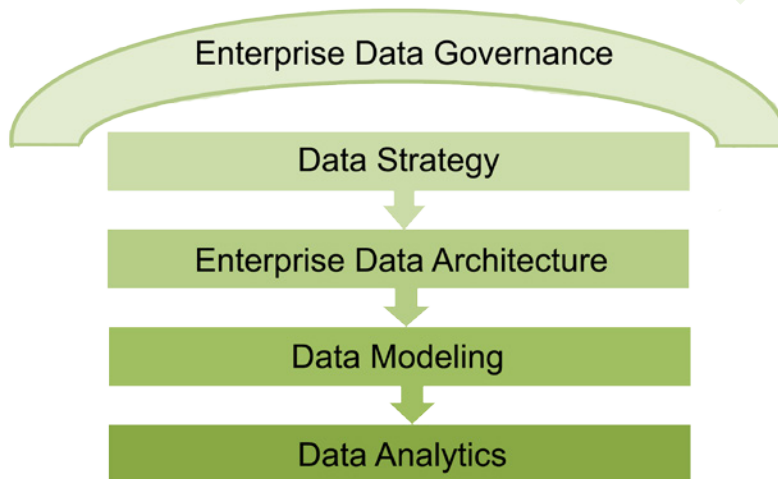
Architecture is the master blueprint that aligns programs and data assets with the strategic goals. CNA understands how data fits into the broader Enterprise Architecture supporting operations, performance measurement, and reporting requirements. Data architecture is the first step toward service oriented architectures that support interoperability between domains.

DATA MODELING

CNA systems engineers translate the data architecture into specific data definitions. We define and standardize the relationships and interfaces between data elements to support database designs and the exchange of data between systems that use common data.

DATA ANALYTICS

CNA has expertise processing, exploring, analyzing, interpreting and visualizing data for clients across defense and civilian agencies. We apply the full range of analysis tools including simulation models, data mining, predictive analytics, text analysis, geospatial analysis, and optimization. CNA brings experience in using enterprise data to identify meaningful performance metrics to support decision making at all levels.



FEATURED EXPERIENCE

FEDERAL AVIATION ADMINISTRATION AERONAUTICAL INFORMATION MANAGEMENT

CNA analysts have experience across the full data and information life cycle at the FAA.

CNA is establishing a strategy for enterprise information exchange of flight, aeronautical, and weather information. CNA has drafted governance structures and frameworks required to successfully implement the strategic direction. CNA worked closely with FAA clients and global aviation stakeholders to identify and document data management requirements. We developed data exchange standards across multiple programs to consolidate different data stores containing the same data elements, to establish authoritative data sources, and to minimize system dependencies.

CNA supports FAA programs at the operational level where thousands of data transactions and information exchanges facilitate control, coordination, and communication among the myriad of aviation stakeholders. Within this National Airspace System (NAS) data layer, there is a vocabulary of data comprising elements, definitions, and attributes; a grammar for constructing the individual elements into an information conveying package; and a semantic context for using the information as it is exchanged.

CNA has performed detailed data analyses to ensure that the data is accurate and of high quality for a wide range of modernization efforts at the FAA. This includes developing automated quality checks for data about changes to the NAS that could pose hazards.

CNA used our experience with data at the FAA to create the paper, *Advancing Data Management at the FAA: Today and Tomorrow; A Holistic, Systematic Approach* (<https://www.cna.org/centers/ipr/esda/enterprise-information>), describing our recommended systematic approach to advancing the practice of data management within the FAA.

FEDERAL EMERGENCY MANAGEMENT AGENCY GRANTS MANAGEMENT MODERNIZATION

CNA is helping FEMA establish a data architecture to support its grants management modernization (GMM) program, which in addition to modernizing the grants management life cycle and platform will create a single repository for all grants management data. CNA is working with FEMA to establish a data migration strategy from the legacy to modernized platform. CNA has been performing data modeling and analysis to identify overlapping and conflicting data elements in the legacy grants environment. The GMM program must exchange data with a number of partners, both internal and external to FEMA. CNA developed a Concept of Operations (CONOPS) for GMM that identified the role of the grants management data within the enterprise data management framework and documented the associated operational requirements.

By using an enterprise-wide approach to establishing the strategy, FEMA will be well-positioned to improve oversight and access to data analytics across the program at the completion of the modernization effort.

UNITED STATES MARINE CORPS SYSTEMS MODERNIZATION

CNA drafted a strategic roadmap and CONOPS for information and data management to support the modernization of United States Marine Corps systems and operations. This effort included establishing a framework to integrate the data architecture, information sharing, and business process initiatives. The CONOPS outlined a multi-year effort that established data governance, a common data architecture structure, and continued data analysis to support data health.

ABOUT CNA CORPORATION

CNA is a not-for-profit research and analysis organization with 75 years of experience providing government agencies with data-driven insights and real-world, actionable solutions grounded in our direct experience with the operational environments where these solutions are applied. CNA developed the foundational techniques for operational analysis to address complex challenges facing government programs. We have applied these techniques successfully in areas ranging from defense to aviation, education, justice, and homeland security.

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