

## Purpose-Built DMaaS for Specialized Mission

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To perform in the modern technological environment, organizations must be not only technology-enabled, but data-driven and data-centric. Government agencies and organizations, like large commercial firms, struggle with data management issues at scale. Robust data is required for organizations to take full advantage of advanced analytics, such as machine learning. Robust data means comprehensive, complete, and accurate data that can be readily shared from process to process. Enterprise-scale, cloud-based DMaaS platforms address these challenges and provide an optimized solution to manage data by eliminating layers of data infrastructure and duplicative, competing data environments.

Defense and Intelligence Community agencies, organizations, and units have unique, mission-driven data challenges that commercially-available DMaaS platforms cannot adequately address. NT Concepts specializes in engineering solutions and services that manage and transform data specifically for advanced analytics and machine learning outcomes driven by these highly specialized mission requirements. These types of solutions often require mission-specific data management solutions.

NT Concepts' DMaaS is a containerized, scalable, portable, production-ready data management platform specifically designed to be cloud and storage agnostic and manage advanced analytics and machine learning workflows on classified networks. Our DMaaS is driven by automation and built upon open-source tools and technologies such as Kubernetes, Terraform, Kubeflow, ML Flow, Hydra, PostgreSQL, Apache Beam, Gitlab, Kafka, and Python. This infrastructure is purpose-built to allow customers with sensitive and specialized missions to deploy a containerized DMaaS environment that provides a Lab-to-Factory service to support data science and machine learning experimentation and then provide a management system to productionize analytic and machine learning workflows and deploy them. Leveraging Kubeflow, this environment also assists users in carefully managing the computational and storage costs associated with machine learning and other advanced analytics at scale. NT Concepts' DMaaS environment was designed to be platform-agnostic, allowing deployment into a classified or unclassified cloud of choice or into customer-provided infrastructure if required for forward deployment.

NT Concepts has successfully deployed this DMaaS capability specifically to support sensitive and highly specialized AI/ML workflows for a Defense Department customer. The environment and service provided ensures security and maintains the data governance and data quality standards necessary to develop and deploy an extensible series of open-source and mission-specific machine learning workflows, at scale, while reducing compute and storage costs. The portable nature of this service facilitates cross-domain development and deployment. The NT Concepts DMaaS capability fills the gap between large enterprise-scale DMaaS offerings and bespoke data environment engineering to support sensitive or government-peculiar analytic and data management workflows.