Army Vantage Data Connection Adaptor Technical Info Paper



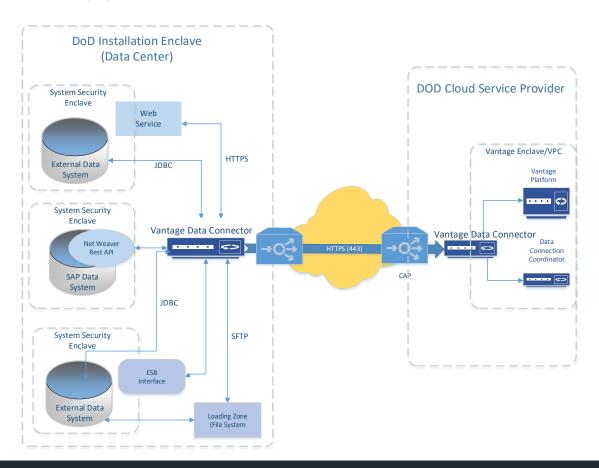
What is Army Vantage?

Army Vantage is a data integration and visualization platform that enables its users to perform analytical workflows, inform operational decisions, and collaborate live using data across every domain in the Army. It allows the Army to see itself clearly through its data and meet its strategic modernization objectives. The platform supports:

- Advanced analytics: predictive, AI, and ML workflows can be performed out-of-the-box.
- Collaboration: different user groups can iterate on the same data, share insights, and communicate live, unifying data communities.
- **Metadata management:** the platform automatically enforces data policies and standardization while enabling users to quickly find relevant data using tags and cataloging features.
- Reproducibility: data and code are exportable and can be leveraged outside of the Army Vantage platform.
- **Scalability**: the platform is compatible with Cloud infrastructure, can support any number of users and data sources, and leverages the Vantage Data Connection Adaptor to rapidly facilitate interfaces with other Army systems.
- Security models: access controls safeguard data based on user roles, data source requirements, and relevant Army policies.

What is the Vantage Data Connection Adaptor (VDCA)?

The Vantage Data Connection Adaptor securely captures data and metadata from source systems and integrates them into the secure Vantage Cloud Instance, providing engineers and analysts controlled, accurate access to data. Credentialed users schedule and execute syncs of data into Vantage through an intuitive and access-controlled User Interface. A cloud-based Coordinator configures and executes jobs that tell the Data Connector how to transfer new data to the designated Vantage raw data project.



VCDA Configuration

Data is queued on the VDCA and then securely transferred to the Vantage core platform. The two connection options are either access through an existing authorized connection from a secure DoD data center, or hosting the application within the mission partner's enclave.

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Which Data Connections are supported for the VDCA?

The Vantage Data Connector supports over 30 (and growing) services natively, allowing it to connect to a Mission Partner's system. In addition, connections can be established through a generic Java based interface to support connectivity with novel systems. This flexibility allows Vantage to take advantage of a Mission Partner's existing interface capabilities, without burdening the Mission Partner with expensive and time consuming interface development.



SQL / Relational Database Typically ODBC/JDBC (read/write as needed but can restrict writing based on requirements). First-class support for Apache Hive, MySQL, Oracle, PostgreSQL, SAP HANA, MS SQL Server, Sybase, Terradata but can support any ODBC/JDBC interface in practice (e.g., CA Datacom, DB2, etc)



File System

First-class support for local directories (Linux/Windows), NFS mounted storage, FTP, SFTP, HDFS (and by extension, any hadoop file system implementation), AWS S3, Microsoft Blob Storage.



Web Services

First-class support for HTTP(S) based API calls, particularly REST and SOAP but in general can make any HTTP(S) call. Can consume any content type, including JSON and XML or unstructured data incl. images, pdfs, etc



ERP Systems

First-class support for SAP ERP (including ECC ERP tables, Business Warehouse InfoProviders, BEx Queries, SLT, Business Content Extractors, Functions/BAPIs, HANA, etc), Salesforce, Oracle



Streaming

First-class support for JMS and Kafka integrations, including to common message queue systems like TIBCO EMS, IBM WebSphere MQ, RabbitMQ etc

Platform and Application Security



Network

The DCA communicates with the Vantage platform via unidirectional outbound requests. This connection utilizes FIPS 140-2 certified encryption over secure HTTPS (TCP/Port 443).



Database

The VDCA pulls data through readonly system accounts with permissions limited by partners.



Encryption

All communication between clients, servers, and databases is secured with SSL/TLS. Data in transit is encrypted using TLS 1.2. At rest, data is encrypted with a combination of RSA 2048, KMS, and AES-256.