

Advana 101 Briefing

July 2021



What is Advana?

Who we are

Advana – a mash-up of the words “Advancing Analytics” – is our technology platform, which, in addition to housing a collection of enterprise data, is pushing beyond simply being a data warehouse; we are arming military and business decision makers across the Department with decision support analytics, visualizations, data tools, and associated support services.

Our vision

Change decision-making behavior across the DoD enterprise through the transparency and flexibility provided by enterprise data and analytics.

Our mission

Support our National Defense Strategy and FM of the Future by making data widely accessible, understandable, and usable across the DoD enterprise. Take action upon the profound opportunity to help the DoD translate common enterprise data into actionable insights, decisions, and outcomes.



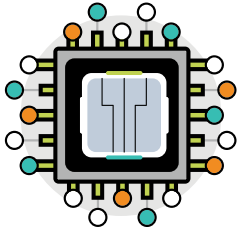
Advana by the Numbers



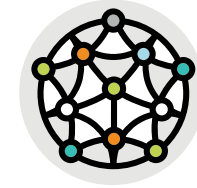
Number of Users:
22,500+



Number of Lines of Business/Portfolios:
11 portfolios



Number of Products:
70+



Number of Accredited Networks:
2 (NIPRNet and SIPRNet)
**JWICS in progress*



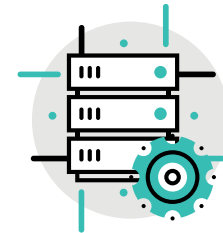
Number of Data Sets:
750+ (daily, weekly, monthly feeds)



Number of Specialized Tools:
18



Data Storage:
500+ TB



Number of Dashboards:
250+

Advana provides real business value to the Department of Defense



Customer-centric Design

Product design is driven by customer business and mission needs, based on customer input feedback at all organizational levels



Open Architecture with No Vendor Lock-in

Best of breed open source and COTS tools are built on an open architecture, hosted on AWS Cloud, with the ability to pull government, public, and commercial data feeds



Government Owned and Secured

DoD accredited system which can serve as a long-term steward of business, mission, and crisis related analytics on NIPR and SIPR



Something for Everyone

Range of ready-built visualizations and self-service options makes Advana relevant and impactful for ALL DoD users – from senior and mid-level decision-makers to analysts, developers, and data scientists



Scaled Agile Flexibility

Program resources leverage Scaled Agile (SAFe) methodology for planning and delivery, which allows for collaboration across our team and our customers as we iterate on solutions together



Single Source of Truth

Thousands of users have access to over 200 DoD data sources across business domains (e.g., Personnel, Finance, Supply Chain)



Foundation Built Upon Audit

Our platform began as the Universe of Transactions for purposes of financial statement audit, and grew from there. The same audit principles that instill trust in our data for purposes of better decision making are applied to everything we do as a platform. This foundation leads to better business and mission decisions and outcomes via the ability to improve data quality, ask better questions of our data, and in turn, support decision making that creates value for the warfighter

Improved Data Quality for Trusted Insights

Integrated data experience informs decision makers

Advana Approach

1. Discover Data

- Search data sets across platform
- Discover trending data
- Get recommendation based on your searches

2. Understand Data

- View data profile pages
- Understand uses of data
- Request access to data

3. Query and Analyze

- Request new Advana project workspace
- Develop data science and machine learning algorithms against data
- Run containerized models on scalable infrastructure

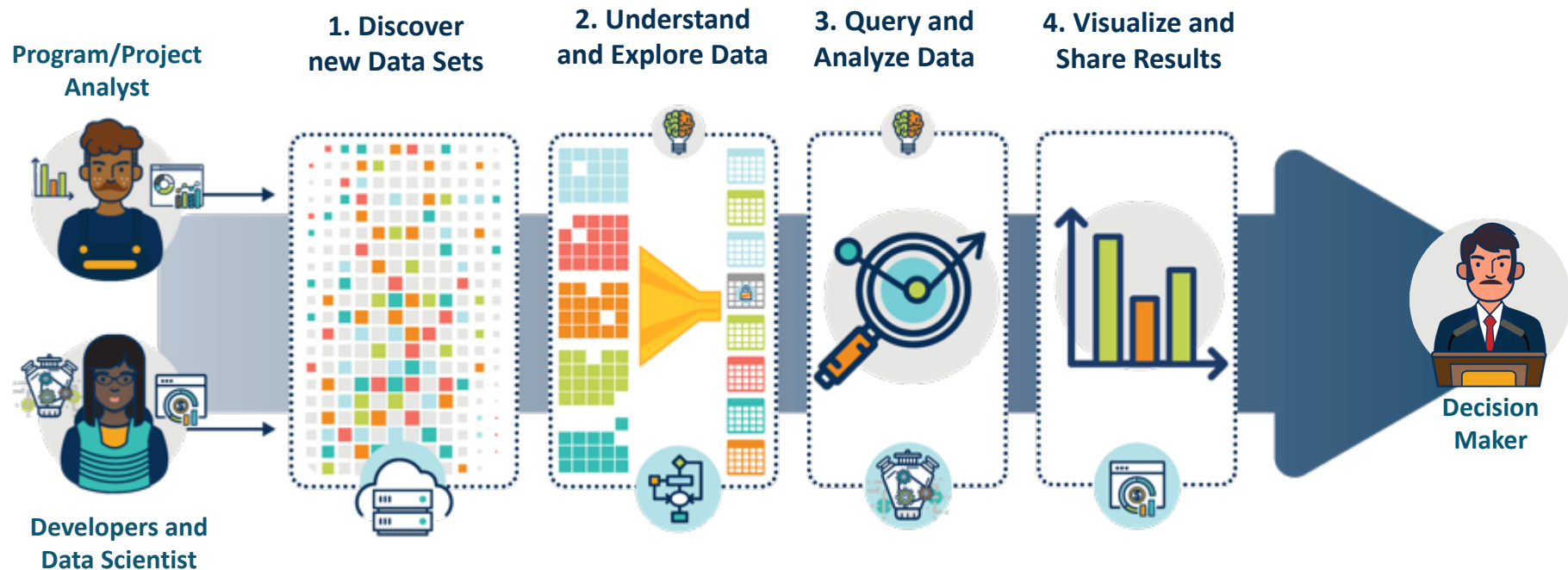
4. Visualize Results

- Visualize data and resulting models with drill-down dashboards
- Develop reports accessible to your community

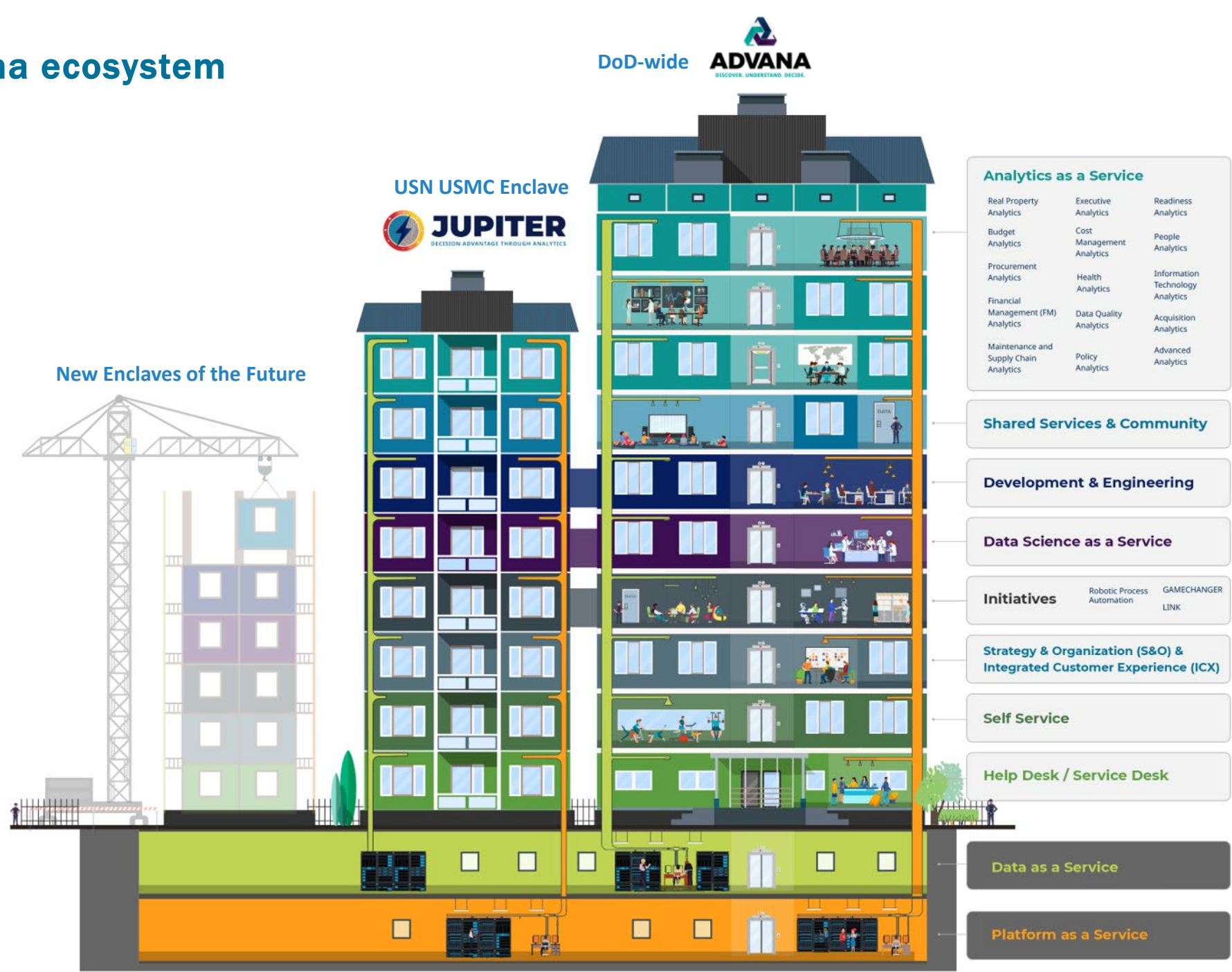
Advana Principles

- Web-based access
- Horizontally (infinitely) scalable
- Containerized enclaves
- Role based access

Advana provides users with a seamless experience and journey across the platform from discovering the data all the way to getting insights from the data



The Advana ecosystem





On Overall Platform Capability

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Want to access the platform?

<https://advana.data.mil>



We host regular Office Hours to share information and answer questions about our products and shared services. Visit the Knowledge Base to see the Office Hours calendar:

<https://wiki.advana.data.mil/display/SDKB/Office+Hours+Calendar>

Please reach out to the point of contact listed in the calendar event to be added to the invite.

We are in the process of adding additional Office Hours. If you have other domain areas of interest, please visit the Service Catalog at: https://wiki.advana.data.mil/download/attachments/34701433/Advana%20Service%20Catalog_2PAGES_v04232020.pdf?api=v2 for more information. Please submit a ticket on the Advana Service Desk: <https://support.advana.data.mil/plugins/servlet/desk/portal/5> for access or inquiries.

Appendix



Advana's managed data services

Scalable storage and compute

- Cloud native services allow auto-scaling of infrastructure based on demand
- Configuration of compute resources to take advantage of auto-scaling and ensure timely execution of jobs
- Management of data storage through automated query monitoring to determine proper indexing, and partitioning for performant data access

Multi-tenancy support

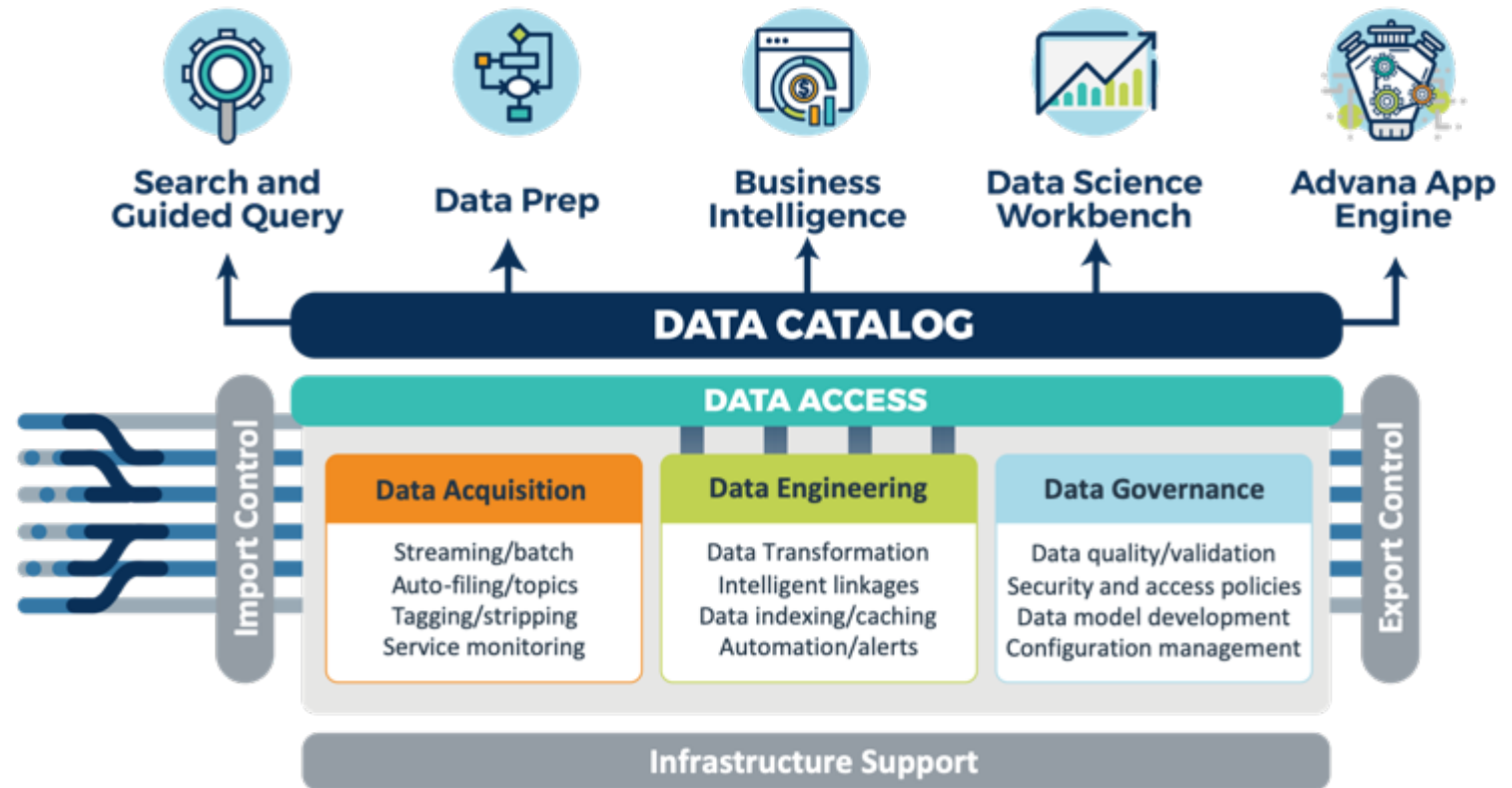
- Access control model that supports complete logical separation of tenant datasets through role-based access control (RBAC)
- Ability to isolate workloads into dedicated clusters for data segregation during data preparation
- Utilize the same access control to logically separate data within business intelligence, data science, and other tools within the platform

Fully-staffed service desk

- Tier-based approach ranging from Tier 1 support specialists to resolve everyday issues to Tier 3 subject matter experts that can quickly resolve complex problems when they arise

Sensitive data handling

- All data residing on the infrastructure will take advantage of full disk encryption and transport layer security encryption in transit necessary to support sensitive data handling such as Personally Identifiable Information (PII)



Advana technical architecture

Data, Tools, and Apps are Access Controlled for Department of Defense (DoD) Users

SOURCES

Sources

Data is acquired from numerous sources using autonomous feeds using mature processes for data acquisition enabling processing of new datasets within days

GFBS	STARS-FL	IRAPT
WAWF	CEFMS	OnePay
NERP	GFBS	DTIMS
DWAS	DCPDS	DMLS
DCAS	GAFS-BQ	IATS
TFMS	Navy BUPERS	DDS
SABRS	PBAS	DTS
MEPRS CCR	CAPS-W	myInvoice
EBiz	ADS	BEX/BI
DMDC	DCPS	FAMIS CS
DAI	NAVITAS	DFAS WAAS
INFADS	RPAD	CFMS
DCBS (Aero-med Evacs)	RFMIS	SMAS
SYNCADA	O&M Exhibit	IPAC (DSSN 3801)
ODS	NAVAC FIS	MSC FMS
Navy SABRS	ISR	GCSS-A (GARMY)
MOCAS	GSA Lease Reports	DEAMS
IAPS	FIS MilCon	TFRS
EUD	DEPARC	GAFS-R
EFD	CRIS System	DPAS
DIFMS	DAAS (INTERFUND)	CDS
DDRS	VISTA MCVISTA	

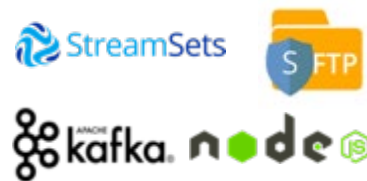
 Many Other Data Sources...

*Over 180 Systems currently on Platform

AGGREGATION

Ingestion

Ingest batch and streaming data from any source of data using fully automated pipelines with little to no human involvement



Storage

Store any type of data from any source easily and cheaply. Handle structured to unstructured data regardless of structure, or format



Data Processing

Parallel and distributed computing enables processing of terabytes of data in seconds.



Data Platform

Fast performing and horizontally scalable compute and storage resources handling petabytes of data, hundreds of billions of records, million of files.

Data Governance

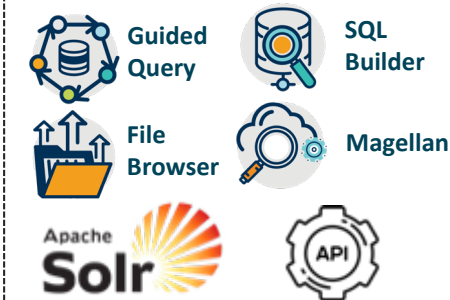
Manage every piece of data using data cataloging, data tagging, data lineage, data policy management, and managing data access approvals

CONSUMPTION

Use

Data Access Layer

Access and query data through different method to enable fast analytics. Tools enable non-technical and technical users to interact with the data using rapid and streamlined tools that are part of a fully integrated experience.



Exploratory Environment

Explore and perform analytics on the data using a variety of industry standard languages directly from your web browser (no need to install tools). Keep version control of your code, share and collaborate with others, and run the code against a powerful distributed computing platform



Reporting and Business intelligence

Rapidly build dashboards and reports that enable users to perform drill-down using modern visuals.



AI/Machine Learning



Data Infrastructure and Security

Best-of-breed of Open-Source and COTS technologies providing a secure, scalable, and performant foundation for the platform.



Mature and secure data lifecycle developed over time through regular audits and data quality measurement tools

Data quality measurement and validation

- Acquired data is programmatically validated against expected values and rejected if results are outside anticipated quality bounds
- Data quality reports are generated for each dataset, including validation at each step, profiling of every element, and signed audit documentation
- Data is cataloged and searchable by source system, as well as Data Dictionary, MOA, frequency of refresh, POC, and other useful metadata
- Data quality and catalog approved by the CDO at the Defense Management and Analytics Steering Committee (DMASC)

Data audits

- Our automated data ingestion process maintains daily audit records that are reviewed monthly
- Every year, Advana undergoes a 3rd party audit to assess compliance with process and technical controls (e.g., SSAE-18)
- Grant Thornton is Advana's primary auditor; however, EY, KPMG, and Kearney also audit the Advana platform



Data Quality Views Over Time

Advana data flow

