



cloudGeometry

Big Data Analytics for Industrial IoT

Case Study



GE Digital



partner
network

SaaS Architecture
Competency

Data converged across industrial equipment drives streamlined analytics to track up-to-the-minute asset health.

Learn how GE Digital uses a flexible data pipeline and advanced analytics to unlock the potential of Industrial IoT. Discover the benefits of real-time data ingestion and multi-tenancy for increased efficiency and profitability.



GE Digital

INDUSTRY

Industrial Enterprise

SOLUTION

Data science pipeline operations, real-time analytics, optimized data science infrastructure

CLIENT

GE Digital



CloudGeometry

GE Digital

The enabling technologies of IoT — connected devices and sensors with acceleration of analytics via the cloud — rely on an integrated data infrastructure. **GE Digital** is at the leading edge of the convergence in Industrial IoT, providing a blended data pipeline that integrates cutting-edge digital instrumentation with financial systems like pricing, billing, and subscription management. With faster access and insight across physical plant, customer, and platform partners, GE Digital provides unique leverage via advanced analytics and artificial intelligence, to achieve data-driven efficiency, productivity, and profitability.

The Challenge

GE Digital needed an agile data fabric suited both for real-time data ingestion and enrichment, in tandem with a broad spectrum of systems of record. Building a new agile data pipeline needed a more modular approach beyond conventional data lakes and traditional data warehouses. Moreover, the architecture needed to accommodate a scalable, secure approach to tenant isolation and service multi-tenancy, as often different competitors in a single industry needed the confidence that their data was private and secure. In addition to maintaining quality data streams at ingest, it needed to deliver variable capacity for continuous bursts to data flows. This adaptive approach is essential to unlocking the potential of machine learning and AI for smart, connected products. It can unleash untapped digital potential for asset-intensive industries.

Data Ingestion

Use powerful, modern data connector framework to pull data from any source, stream or batch; add new data & transformation rules in minutes, not weeks.

Agile Analytics

Cut friction of transformation, aggregation, computation combining streaming ([Kinesis](#)), Data Warehouse ([Redshift](#)) and relational ([Aurora](#)) data stores.

Elastic Microservices

Easily configure and run Dockerized event-driven, pipeline-related data tasks with Kubernetes.

GE Digital

The Solution

CloudGeometry provides GE Digital's IIoT infrastructure with [data pipeline logic and integration services](#). This blends event data into a flexible platform serving a range of downstream analytics cases, ranging from business intelligence dashboards to machine learning. The data ingestion process draws on asynchronous event payloads from both physical and digital devices. Different enrichment algorithms create extensions to event data, such as: time-and-date for calendar intervals (e.g., global time zones) of cycles (for subscription reporting); geo-tagging to add information on event locales; and the like. Data quality is continuously tracked across data cleansing, mapping, and quality processes.

Asynchronous processing of IIoT event streams is a [key to cost-effective data integration](#) in the context of true multi-tenancy. CloudGeometry built containerized event logic that runs worker processes on demand, spinning up and shutting down pipelines to optimize compute costs. The pipeline architecture also takes advantage of storage economies thru split caching of both short and long-term key-value stores, complemented by metadata stores, for configuring of both events and the range of devices.

The Benefits

The versatility of end-to-end data pipeline and data integration by CloudGeometry provides GE Digital a flexible, continuously adaptable data movement as IIoT adoption accelerates to its full potential.

Data Ingestion

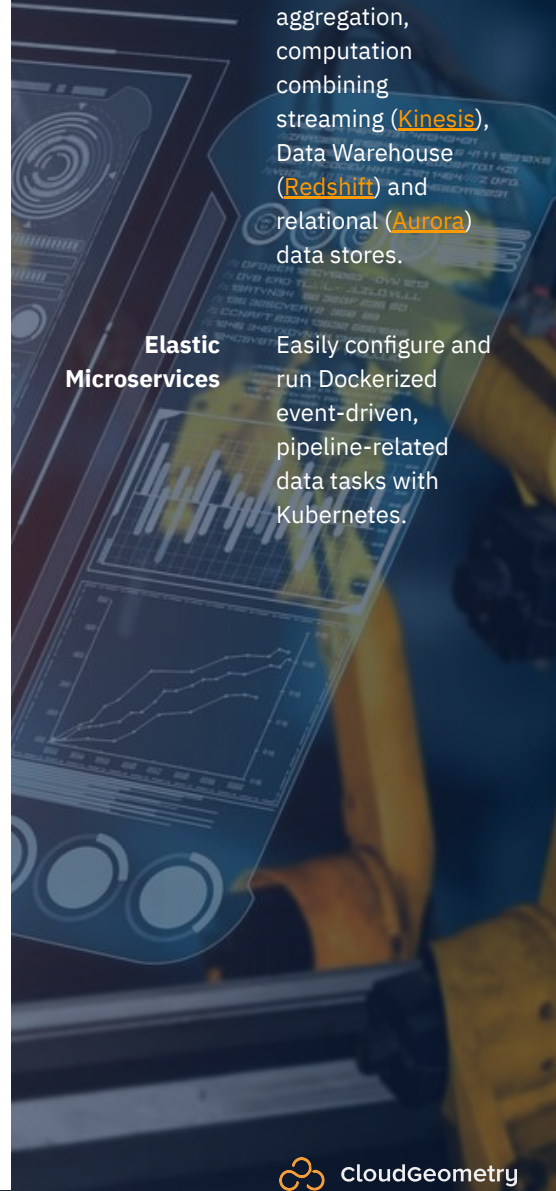
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Technology Solutions & Services

to build, optimize and run your cloud software and operations.



TECHNOLOGY SOLUTIONS

APPLICATION MODERNIZATION

Transform Legacy Systems for Future-Ready Innovation

CLOUD COST MANAGEMENT

Optimize Cloud Spending for Maximum ROI and Efficiency

AI & DATA

Achieve breakthrough automation and analytic insights via cutting-edge data strategies

SECURITY AND COMPLIANCE

Reinforce your cloud infra, workload, operations, and development end-to-end

FOUNDATION SERVICES

CLOUD INFRA & OPS

Robust Infrastructure Solutions for Seamless Operations

- DevOps as a Service
- Managed Cloud Operations
- Cloud Spend Optimization
- Resilience, Continuity & Backup
- AWS Well-Architected

MODERNIZATION & MIGRATION

Smooth Transitions to Modern Architectures with Minimal Disruption

- Application Modernization
- Kubernetes Adoption
- AWS Database Migration
- Data Engineering Operations
- Data Integration
- Data Migration
- Cloud Migration & Adoption

ADVANCED SERVICES

CLOUD-NATIVE DEVELOPMENT

Build Scalable, Resilient Applications with Cloud-Native Technologies

- CI/CD
- Multi- Platform App Design & Development
- Cloud-Ready Teams
- Enterprise SaaS Modernization
- Multi-Tenancy SaaS
- B2B Customer Success Engineering

CLOUD-NATIVE OPERATIONS

Streamline Operations with Advanced Cloud-Native Practices

- Platform Engineering
- Workload Management
- Monitoring & Observability
- Infrastructure Management

AI/ML & DATA SERVICES

AI/ML & DATA

Leverage Advanced Analytics and Machine Learning to achieve exponential acceleration in the ROI of your data assets

- AI/ML Engineering for Data Analytics
- Generative AI
- Traditional ML for Data Analytics
- AI/ML Development and and Data Science
- Data Engineering for MLOps

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Tel Aviv

CloudGeometry delivers expert technical services, helping our clients unlock the full potential of cloud-native open source tooling and commercial platform technologies.

With roots in Silicon Valley, we've seen firsthand what works (and what doesn't). Count on CloudGeometry to accelerate application modernization, Kubernetes adoption, developer enablement, secure multi-tenancy, AI/MLOps, DevOps automation and more.

- As **AWS Advanced Consulting** partners, our certified solution architects and platform engineers help address the range of challenges facing enterprise innovators and venture funded startups alike.
- The **Cloud Native Computing Foundation** has accredited us as a **Kubernetes Certified Service Provider**.
- We serve as charter contributors to the **Linux Foundation Data & AI Commons** (LF Data & AI), supporting a diverse, sustainable ecosystem for open source data and AI technologies.

Over the last decade, we've built and deployed hundreds of big, fast full-stack apps with well-engineered cloud infrastructure across industries: Financial Services, Industrial Automation, Healthcare, AdTech, Consumer-grade Mobile, smart devices, and more.

From enterprise upgrades to data engineering to cloud-native scale-out, CloudGeometry helps you plot the shortest path across all dimensions of modern cloud software engineering.

 partner network

Advanced Consulting Partner

SaaS

Amazon Kinesis

AWS Lambda

Amazon Redshift

AWS Database Migration Service



CLOUD NATIVE COMPUTING FOUNDATION

GENERAL MEMBER
LF AI & DATA
GENERATIVE AI COMMONS



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& DevOps

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