



CASE STUDY

How EPAM & Element Fleet Management Delivered a Scalable, Future-Ready Data Platform Solution

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Element Fleet Management is a leading global fleet management company that provides a comprehensive range of services and solutions for cars, light-duty vehicles, trucks and material-handling equipment services that span the entire fleet management lifecycle.

As an industry leader, Element embodies what it means to be a data-driven enterprise, leveraging its diverse, ever-growing data sources—from operational financial information to telemetry data that provides near-real-time analysis of vehicles—to expand its service offerings and meet customers' needs. Element is continually searching for ways to deliver a superior and consistent client experience. To expand its offerings, Element adopted a dynamic growth strategy where an IT platform would play a pivotal role. The company realized it needed this platform solution to reduce costs, support scalability and improve efficiency by eliminating tasks related to on-premise hosting services.

Element approached EPAM to create a robust, scalable foundation for its global technology platform to address existing pain points, including capacity constraints, licensing costs, aging hardware and software, and data processing limitations. As a trusted partner since 2014, Element worked with EPAM to build their unified data platform, which provides a single source of truth for its internal and external clients.



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DECIPHERING EVER-GROWING DATA IN FLEET MANAGEMENT

Element sought to migrate from its existing tech stack to Snowflake and AWS to develop a comprehensive data platform that could:

- Help monitor and reduce costs
- Scale sustainably in a way that was relative to anticipated growth in demand
- Support business requirements for advanced analytics, business user usability, data ingestion to a central data repository, data cleansing and data consumption layers
- Enable centralized platform monitoring
- Act as a centralized storage location for semi-structured and non-structured data (e.g. images and licenses)
- Allow the business to easily identify and create new KPIs and metrics

BUILDING AN ENHANCED DATA MANAGEMENT MODEL

To identify the right solution, EPAM reverse-engineered several of the Element's existing systems, conducted extensive research into the current ecosystem. The research determined a game-changing opportunity that could be achieved by moving to a reimagined cloud-based data platform. EPAM implemented several proof-of-concept evaluations as part of the design process for the new platform.

EPAM worked closely with Element's enterprise architects and technical team to design and implement the data platform solution to address

key business challenges related to end-customer data delivery, reporting and analytics. EPAM also enhanced Element's business intelligence capabilities by eliminating operational constraints across the management, maintenance and monitoring of its existing NoSQL systems.

Based on Element's architectural requirements, EPAM determined that AWS—when used in conjunction with the cloud-based, ACID-compliant data management system Snowflake—had the best set of functional capabilities and managed services for Element's needs.

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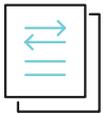
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THE MAJOR COMPONENTS OF THE NEW SOLUTION ARE:



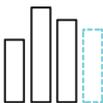
Logical View

Data migration and continuous data delivery pipelines use an operational support area and enterprise authentication and authorization models, ultimately converging in one data consumption layer. This enables Element to quickly provide business analytics to its clients, allowing them to easily make vital business decisions.



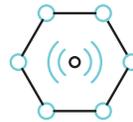
Platform Data Flow

The data foundation ingests, transforms and provides data to downstream applications, and produces high-quality, reliable and accurate reports, allowing Element and its customers to make better data-driven decisions for their businesses.



Data Consumption

Data consumption is supported through a central data repository based on AWS's ACID-compliant Data Warehousing as a Service (DWaaS) technology, providing business users greater flexibility and security while using the system.



Compute

Comprised of several AWS technologies, the compute layer is the most complex layer as it supports real-time, near-real-time and batch data processing via several complex algorithms, ensuring it can scale appropriately to complete computationally-intensive tasks quickly.



Network Access

To ensure the security of Element's data, access to the platform is only allowed for known corporate users and customers. All AWS environments are provisioned out of the customer-owned AWS accounts. Perimeter security is enabled through segregation of platform resources in dedicated Virtual Private Clouds (VPCs).



Data Access

Analytical outcomes for any datasets are protected by dedicated user roles. Data is stored and processed by the platform and is encrypted at all levels using features provided by Snowflake on AWS's DWaaS.

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TECH STACK AT A GLANCE

AWS

Snowflake

Talend

Atlassian JIRA

Grafana



“In six weeks, EPAM worked with key Element leaders to assess our pain points, identify key use cases and objectives across all of our business areas and determined the right path forward with a completely reimagined data platform. In the ensuing 10 months, we were able to make this transition and deliver it into production seamlessly. All of our objectives were met and, in some cases, exceeded.”

– Jim Williamson, VP Data and Analytics, North America

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INVESTING IN DATA MIGRATION & SECURITY-POWERED PROCESSES

Ultimately, the solution—which adopted the best security principles AWS-based architecture offers—created by EPAM was integrated with existing support processes. The solution is a scalable platform that supports millions of data assets. In addition, data analysis modules, which historically took days to run, run within hours, greatly improving the business's efficiency. By working with EPAM to establish an enterprise-wide unified data platform, Element can now:

- Make short-term improvements easily to meet client needs
- Deliver on Element's long-term business strategy and needs
- Reduce maintenance costs by replacing its legacy NoSQL on-premise environment
- Scale easily with its new high-performing, ACID-compliant, cloud-based RDBMS system
- Support more rapid technology innovation in the future thanks to a new, simplified enterprise-wide data governance model and homogenous data discovery capabilities
- Perform updates that support operational excellence so the business can become more efficient and effective
- Conduct reports for longer time periods to meet client needs
- Increase speed and reduce time to analyze data and produce reports
- Leverage new platform capabilities immediately as they are released by cloud partners
- Quickly transition future enhancements to production-ready state

Continued IT improvements will enable Element's clients to quickly and flexibly access fleet data while Element provides comprehensive data analysis.

ABOUT ELEMENT FLEET MANAGEMENT

Element Fleet Management (TSX: EFN) is a leading global fleet management company, providing world-class services and financing for commercial vehicle fleets. The company enjoys scale and leadership in key markets, a top-tier client base, strong cash flow and ready access to capital, and an investment-grade balance sheet. Element's suite of services spans the total fleet lifecycle—from acquisition and financing to program management and remarketing—helping clients optimize performance and improve productivity. For more information, visit www.elementfleet.com.

ABOUT EPAM'S AWS PRACTICE

As an AWS Advanced Consulting Partner, EPAM works with its global customers to design, migrate, build and support sophisticated cloud applications on AWS with increased flexibility, scalability and reliability. As of 2018, EPAM has over 2,000 AWS engineers, 90 AWS business and technical accreditations and has delivered over 300 projects that leverage AWS.

ABOUT EPAM SYSTEMS

Since 1993, EPAM has leveraged its software engineering expertise to become a leading global product development, digital platform engineering, and top digital and product design agency. Through its 'Engineering DNA' and strategy, consulting and design capabilities, EPAM delivers next-gen solutions that turn complex business challenges into outcomes for its customers.

QUESTIONS?

Contact us at Sales@EPAM.com
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