

An Introduction To Cloud Formations

Cloud Formations

Delivering
Action
Through
Analytics

We partner for the journey to achieve a **common goal**, from siloed data solutions to scalable, **value driven data platforms**. Ensuring foundations that support the **strategic direction** of the business. Our loyalty is to your success through **innovation** and **excellence**, led by **40 years of experience** in the industry.

Our Story

Once upon a time, in a sleepy village pub, two families met in a sunny beer garden. With drinks and conversation flowing the husbands quickly realised their careers were forged in the same Microsoft data driven trenches, as developers and later consultants.

As life progressed, through the community, those interactions became more frequent.

Until one day, a seed was planted.

That seed grew into **Cloud**  **Formations**

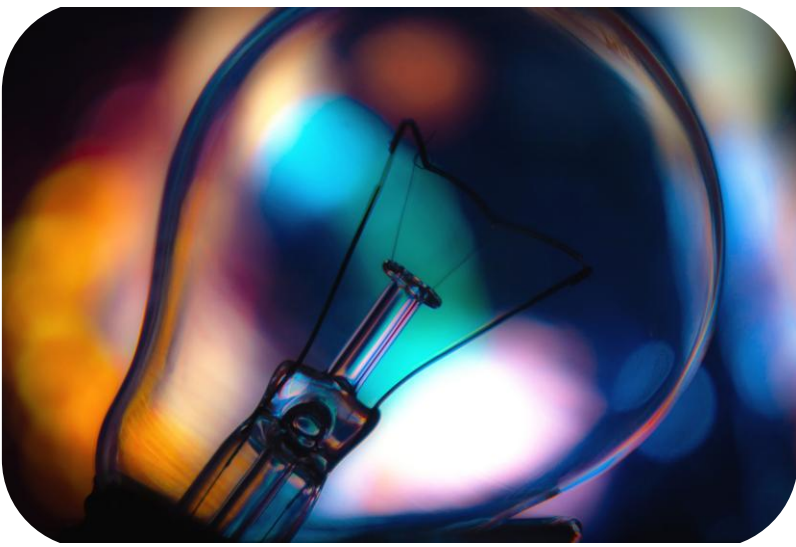


Our Values



Integrity

Upholding the highest ethical standards, ensuring trust and transparency with our clients



Innovation

Continuously seeking new ideas, technologies, and methodologies



Delivery Excellence

Committed to exceptional outcomes in all aspects of delivery & service



One Team

Embracing collaboration among our teams and clients for shared success

Forming Our Identity

Our Core Offerings

Supporting you on every level. Providing stakeholders with transparent reviews and feedback on planning, rollout and platform architecture.

Advisory



Strategy

Ensuring business value in everything, motivated by use cases, people and process. Aligned to the latest industry standards and concepts.

Partnering for the long term. From development to operations, monitoring and alerting. We'll support your business-critical platforms.

Lifecycle Support



Design

Scalable platform design using cloud native technology, reducing time to insight for batch, stream and event driven workloads for fabric and mesh architectures.

Knowledge sharing from the experts. Ensuring skills remain relevant for emerging cloud technologies and techniques.

Training

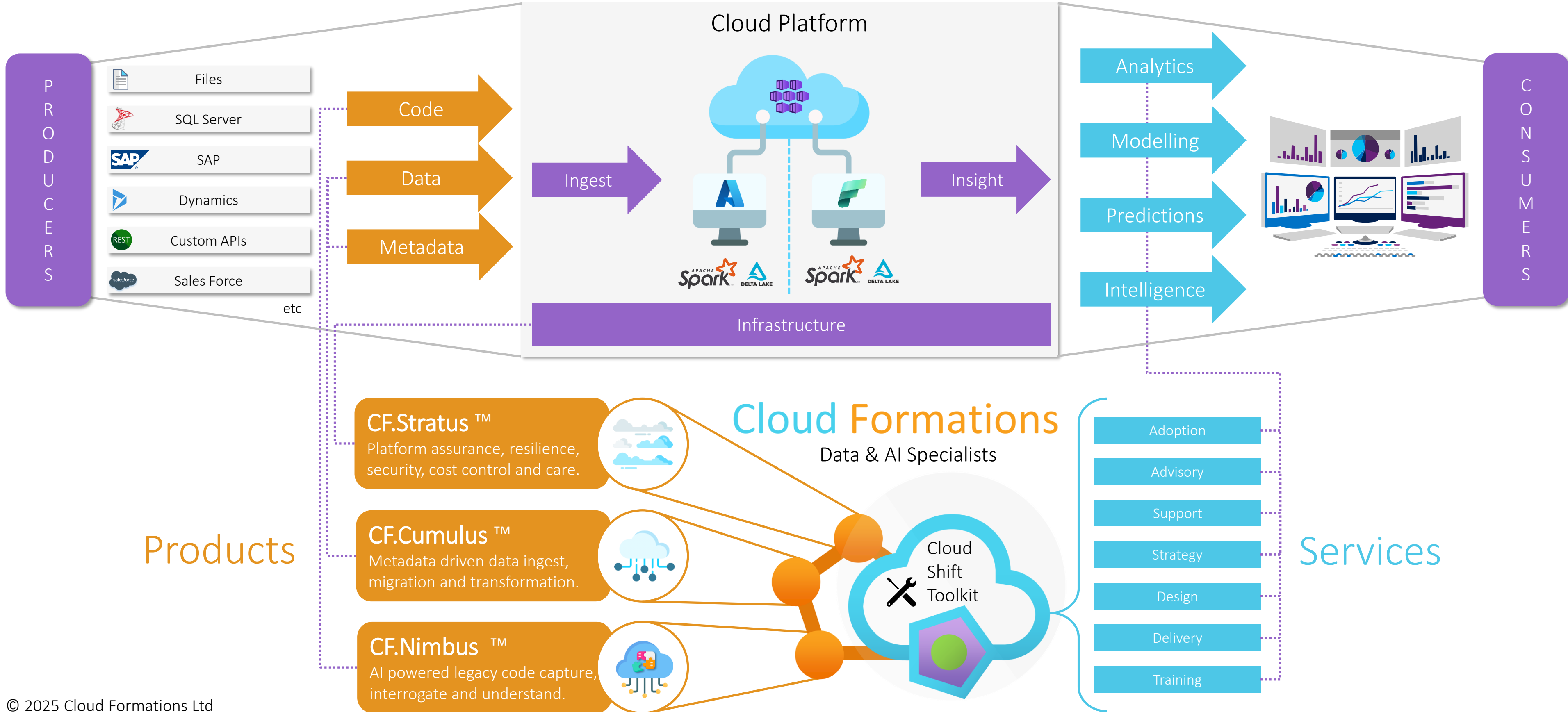


Delivery

Highly experienced engineers to support your implementation, with a full complement of continuous deployment practices and reusable assets.

Our Cloud Shift Toolkit – A Typical Data Journey Cloud Formations

Couple our AI driven innovative **Products** with our industry leading **Services** to get your data moving, delivering use cases and unlocking business value as part of our **Toolkit**.



Service Catalogue – Strategic Services



Data Strategy Consulting

We help you navigate your data journey, identifying opportunities and addressing challenges to make data your competitive advantage. We assess your current data state, define a future state vision, and create a strategic roadmap to get there.



Data Culture & Adoption

We guide you in embedding data at the heart of your operations and equipping your team with the skills to leverage it effectively. From training sessions to strategy workshops, we make data a part of your organizational DNA.



Data Innovation Workshops

We facilitate sessions aimed at brainstorming data-driven solutions, exploring new data technologies, and enabling continuous learning within your organization.



Architecture Oversight & Reviews

Our experts review your current setup, identify gaps, and provide recommendations for optimizing your data infrastructure, ensuring scalability, efficiency, and security.



AI Strategy Consulting

Our AI Strategy Consulting service is designed to help you understand the potential of AI in your business context. We work alongside your team to explore and identify potential use cases, assess their predictability, and estimate the potential business value.



Data Governance

We help organizations establish and implement data governance frameworks that ensure data quality, compliance, and security. Our service includes developing data governance policies, defining data stewardship roles, implementing data management processes, and monitoring effectiveness.

Service Catalogue – Delivery Services



Modern Analytics Platform

We design and implement modern analytics platforms tailored to your specific needs, integrating cutting-edge technologies. Our approach involves requirements gathering, solution design, platform implementation, data integration, and user training to empower you with actionable insights.

Data Migration Services

Our data migration services ensure a smooth and efficient transition from legacy systems to modern data platforms. We develop a migration strategy, perform data mapping, execute the migration process, validate data integrity, and provide ongoing support to minimize downtime and ensure data consistency.

Advanced Analytics

Our advanced analytics service utilizes cutting-edge techniques such as machine learning, predictive modelling, and statistical analysis to uncover valuable insights from your data. We build advanced analytical models, conduct data exploration, and deliver actionable insights that drive informed decision-making.

Data Mesh & Fabric Adoption

Our Data Mesh platform design and implementation service helps you embrace a decentralized data architecture that empowers cross-functional teams. We provide expertise in domain-driven design, data governance, data product development, and scalable data infrastructure to enable autonomy and flexibility.

Data Science as a Service

Our Data Science as a Service offers an end-to-end solution, helping you transform your data into actionable insights. We help define your data problem, prepare your data, develop predictive models, and deploy these models into production. With our team of experienced data scientists, you can leverage data science without the need for in-house expertise.

Data Visualization

We help businesses represent complex data in an intuitive, easy-to-understand manner. Our data visualization services involve designing interactive dashboards and reports, ensuring that the visualized data provides meaningful insights that can inform business decisions.

Training Catalogue

Cloud Formations Proudly presents...

Fabric Real-time Intelligence

The cover features the Microsoft Fabric logo in green and blue, surrounded by various data-related icons such as a bar chart, a pie chart, and a network diagram.

Cloud Formations Proudly presents...

Compute & Storage 101

The cover displays the letters 'A', a blue cylinder representing a storage tank, and a grid of blue squares.

Cloud Formations Proudly presents...

Integration Pipelines

The cover shows three stylized pipes of different colors (yellow, blue, and orange) connected in a line.

Cloud Formations Proudly presents...

Intelligent Automation

The cover features three blue geometric shapes: a ribbon-like arrow, a chevron, and a cube.

Cloud Formations Proudly presents...

Fabric for the Business User

The cover shows the Microsoft Fabric logo and several colorful arrows pointing in different directions.

Cloud Formations Proudly presents...

Microsoft Fabric for the Platform Administrator (DBA)

The cover includes icons for a person, a network diagram, the Fabric logo, a code editor, and a cloud icon.

Cloud Formations Proudly presents...

Creating a Data Lakehouse

The cover shows three data tables connected by arrows, with the Delta Lake logo and text 'DELTA LAKE' at the bottom.

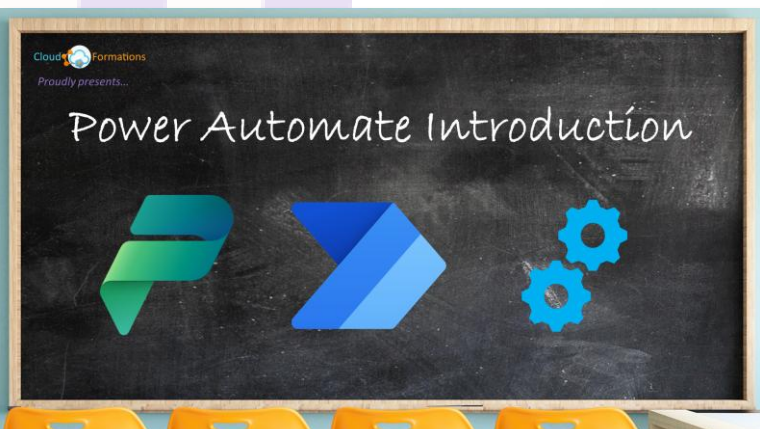
Cloud Formations Proudly presents...

Engineering with Apache Spark

The cover features the Apache Spark logo and a Python logo inside a black box.

Cloud Formations Proudly presents...

Power Automate Introduction

The cover shows the Power Automate logo, a blue chevron, and a gear icon.

Cloud Formations Proudly presents...

Getting Started with Fabric Learn By Doing

The cover features a grid of various icons representing different data and automation concepts.

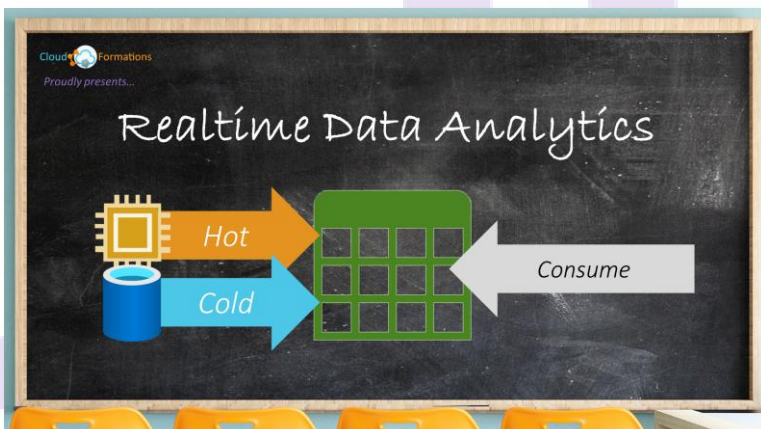
Cloud Formations Proudly presents...

Power BI Essentials

The cover shows a data table, a bar chart, and a starburst icon.

Cloud Formations Proudly presents...

Realtime Data Analytics

The cover features a diagram with a 'Hot' path (orange arrow), a 'Cold' path (blue arrow), and a 'Consume' path (grey arrow) leading to a data table.

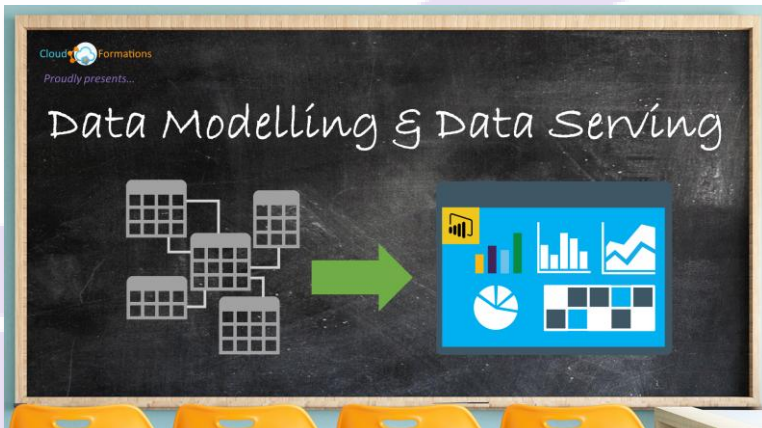
Cloud Formations Proudly presents...

Power Apps Essentials

The cover shows the Microsoft Fabric logo, a purple cube, and a pink ribbon.

Cloud Formations Proudly presents...

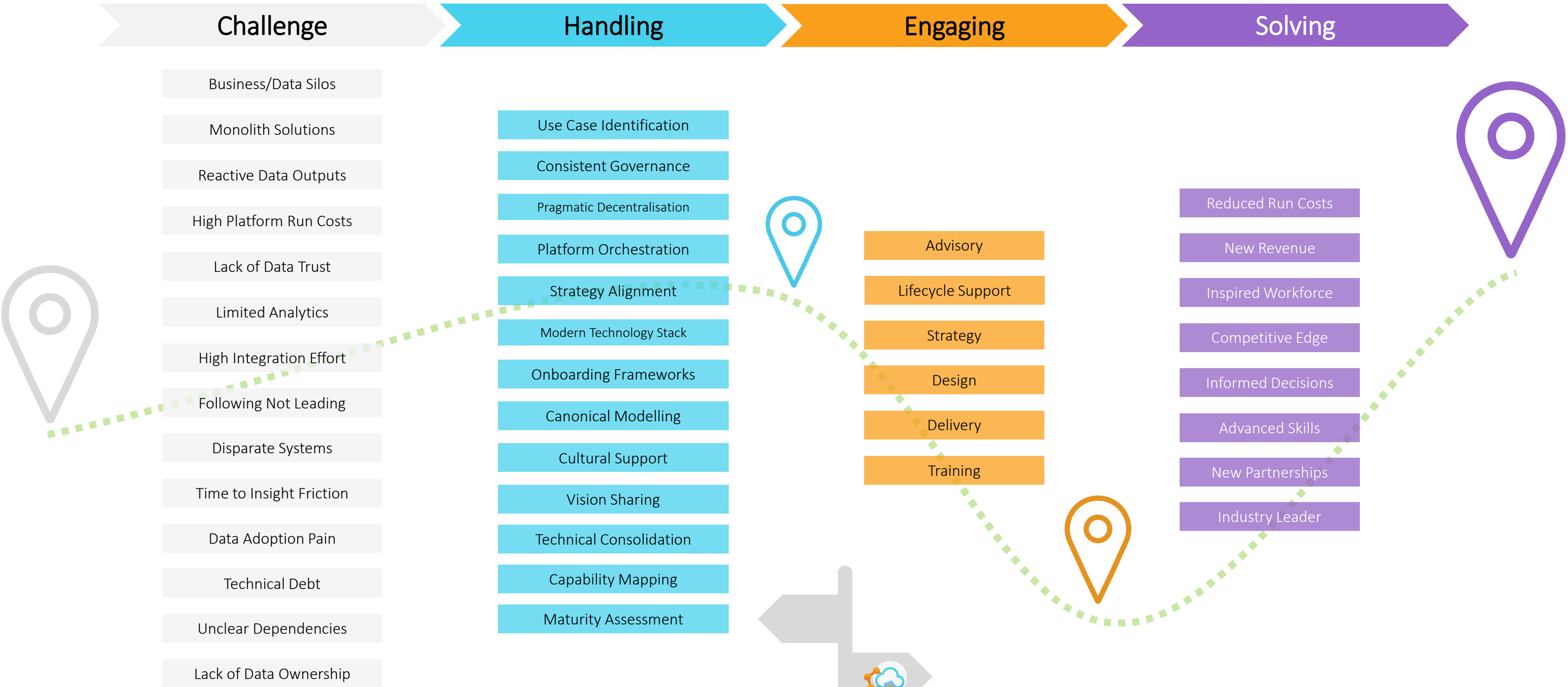
Data Modelling & Data Serving

The cover features a diagram showing data tables being processed and served to a dashboard with various charts.

cloudformations.org/training-courses

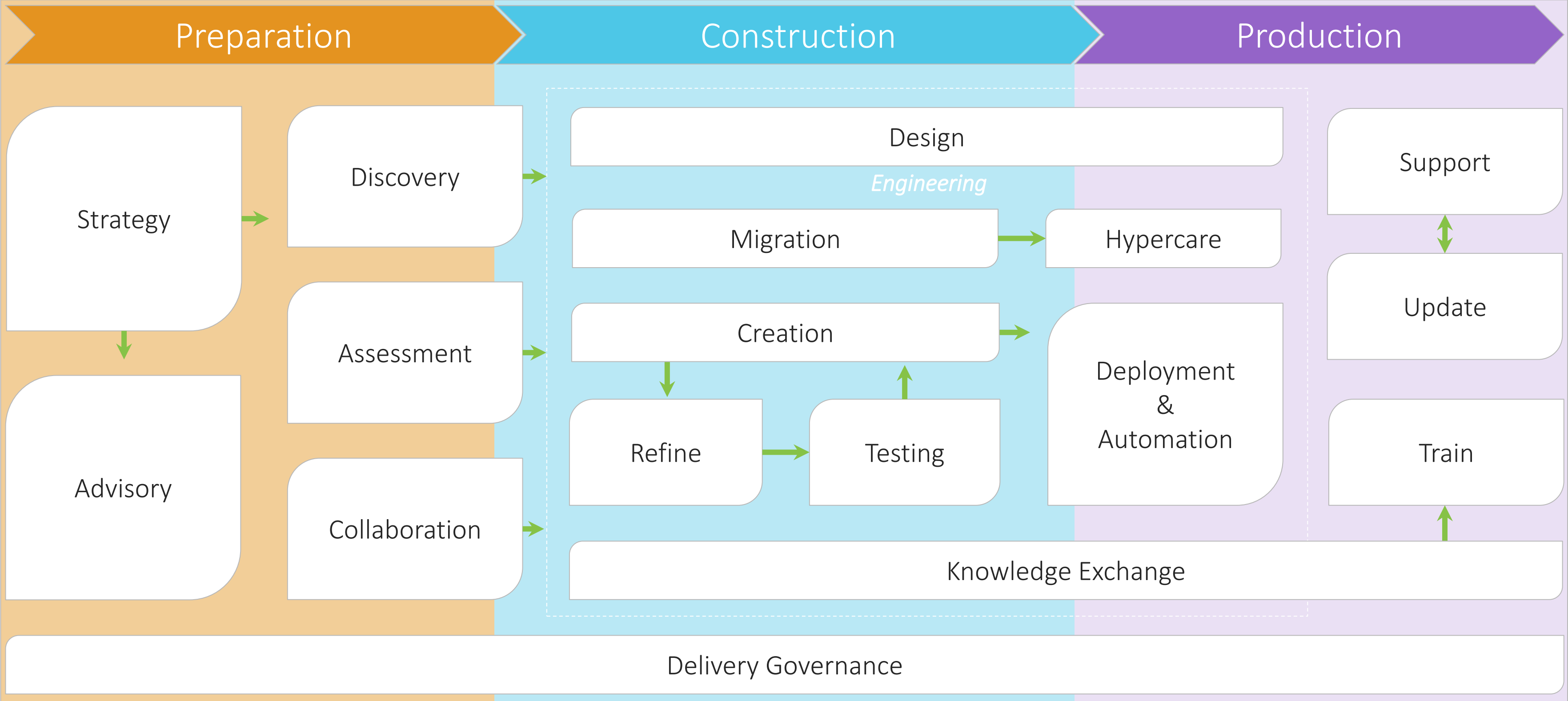
Common Data Problems

Identifying Pathways to Value and Data Insights



Ways We Can Engage

Our Framework

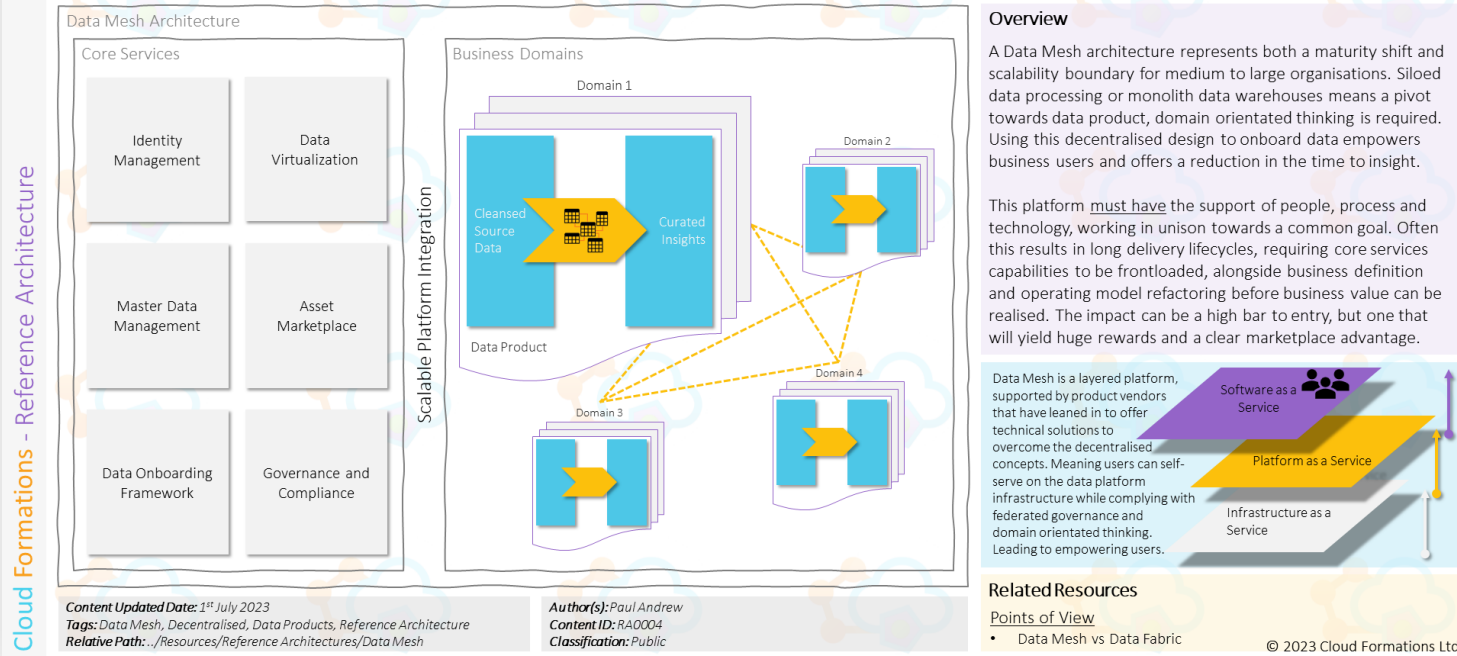


Using Industry Leading Architectures & Design Patterns

Data Mesh

Delivering Core Services to Facilitate Scalable Business Domains

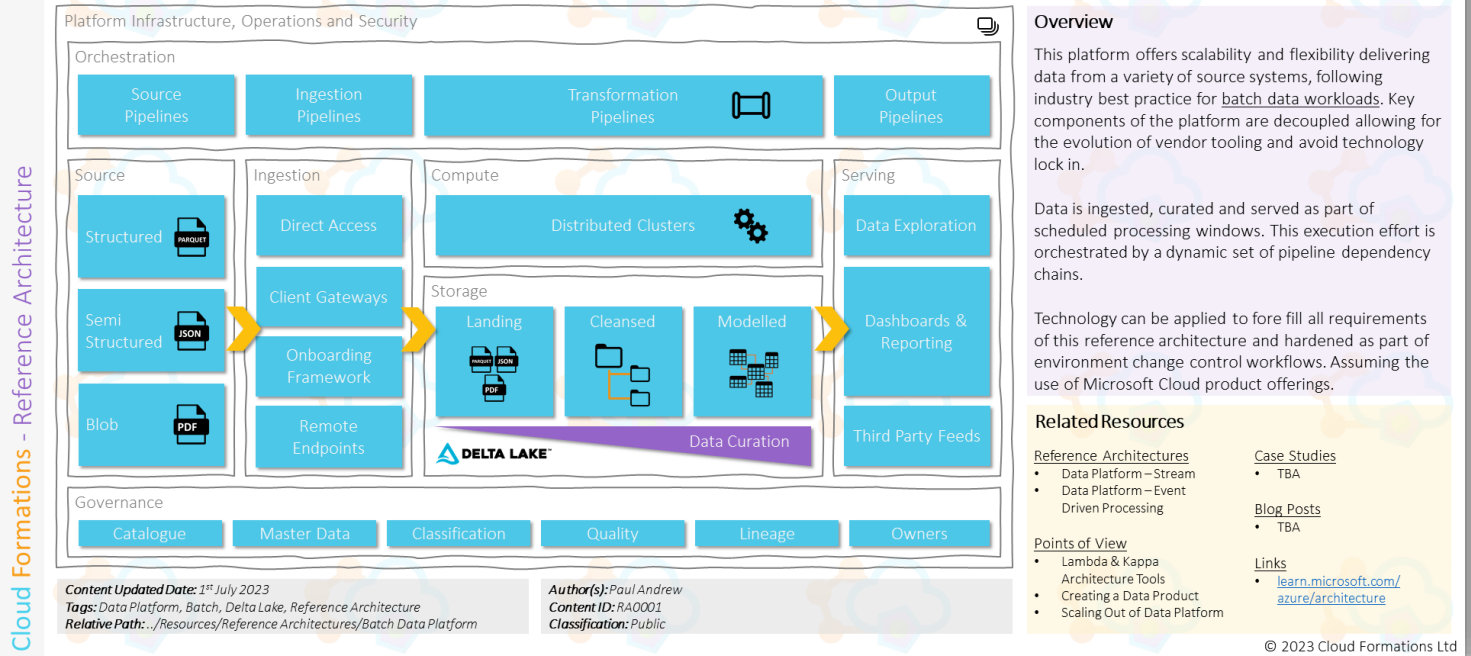
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Data Platform – Batch Handling

Scheduled data pulls from source systems, curated and served.

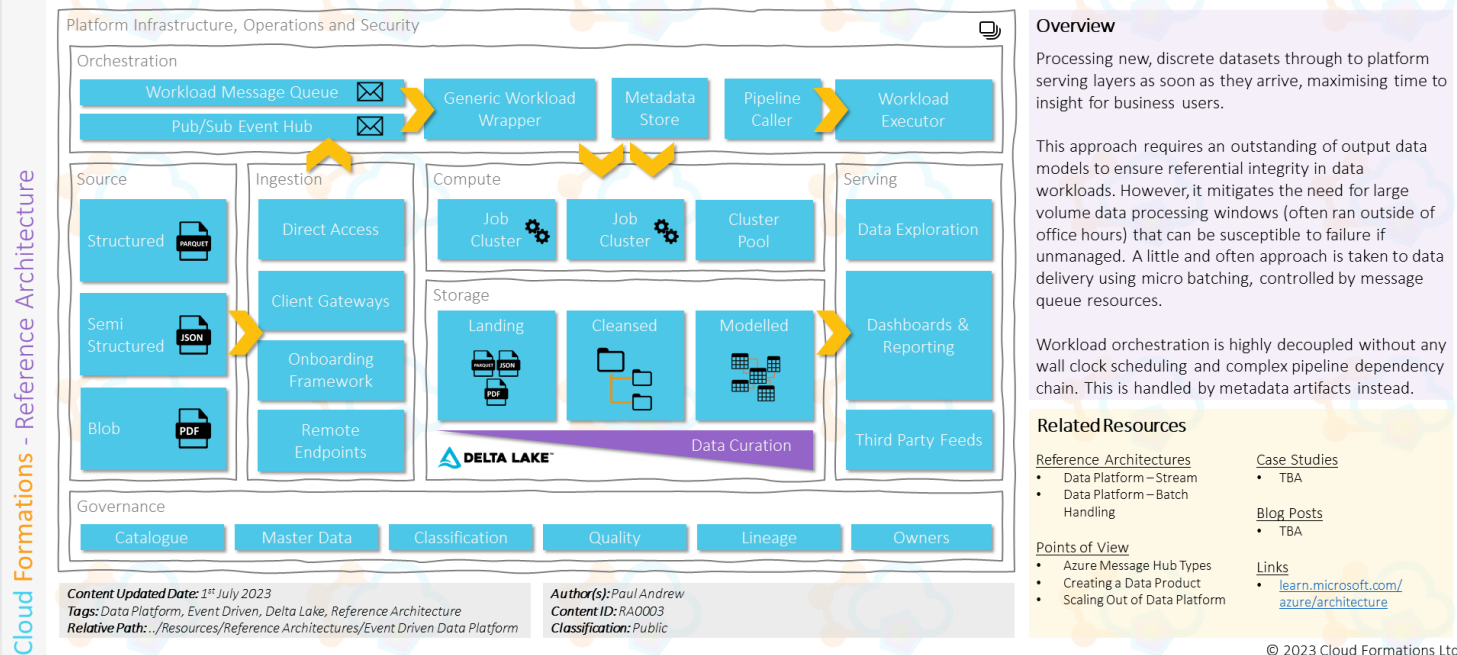
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Data Platform – Event Driven Processing

Publisher/subscriber-based executions using 'just in time' delivery concepts.

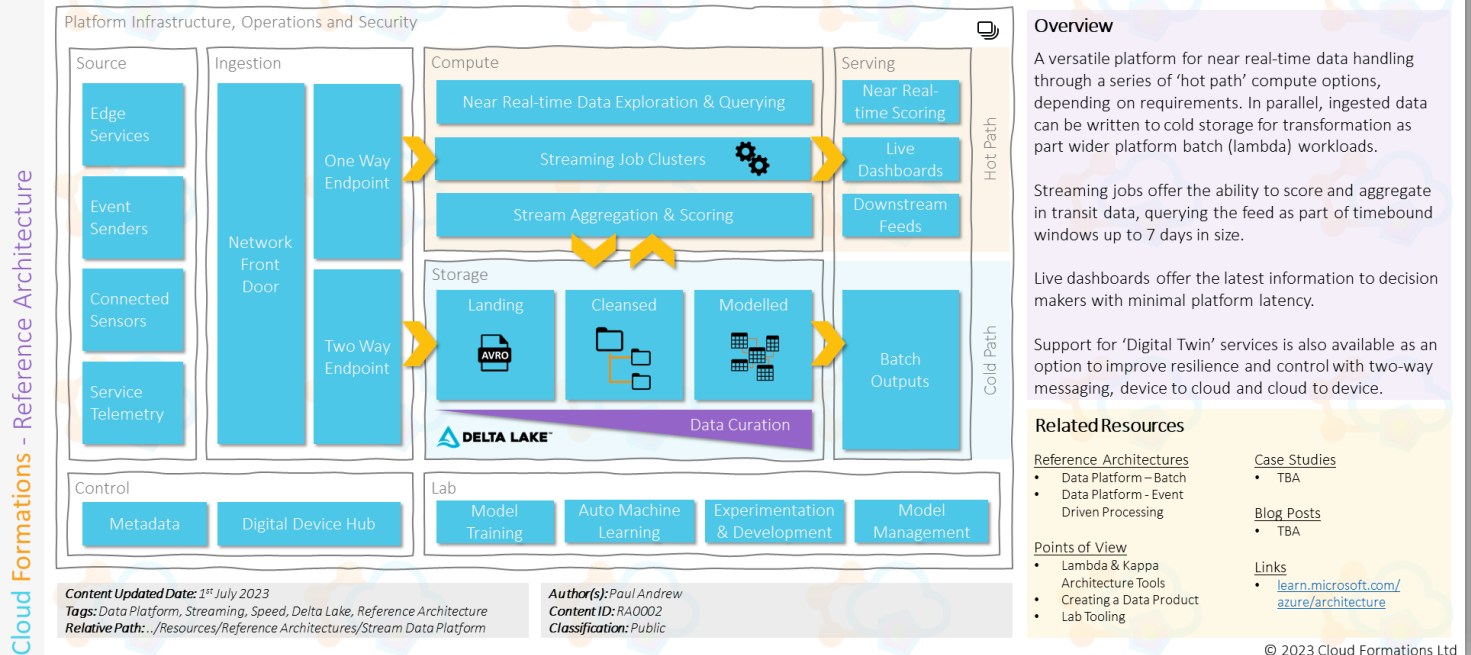
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Data Platform – Stream/Speed Handling

Near real-time data streams passed end-to-end with in transit querying.

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With Proven Customer Deliveries & Testimonies

Implementing a Metadata-Driven Data Lakehouse on Azure with CF.Cumulus

Leveraging ready-to-go pipelines, connections and metadata to accelerate the delivery process of a cloud data platform.

Cloud Formations utilised our open-source metadata-driven Lakehouse data platform accelerator, CF.Cumulus, to rapidly ingest data from Oracle and Dynamics 365, leveraging Microsoft Analytics Platform technologies to deliver use cases for a large London based housing association.

Technologies
Using Microsoft Azure cloud native resources, a data mesh architecture is being designed using the following compute and storage components:

- Data Lake
- Data Factory
- Databricks
- SQL Database
- Functions
- Microsoft Fabric
- Azure DevOps

Solution Overview
Using the CF.Cumulus accelerator provided rapid deployment of a best practice Lakehouse data platform with seamless integration, meeting networking and governance requirements of the client. The pre-built product connections and out-of-the-box CF.Cumulus pipelines in Azure Data Factory saved weeks of development effort facilitating deeper collaboration with the client and enabling self-service of the platform.

Data is then served through Microsoft Fabric for a unified business user experience meeting the strategic ambitions of the organisation and enable consumers to explore and self-serve from trusted, curated datasets. The solution uses the best of all products to deliver a complete 'medallion architecture'.

Key Features

- Metadata-driven data ingestion framework.
- Intelligent data loading through CDC logic and data load history.
- Cost-efficient compute implementation for both development and production experiences.
- Resilient and restartable orchestration pipelines.

Outcome
The solution provided the business with:

- Datasets ingested from source with little configuration efforts by development team.
- Repeatable framework and training provided to ingest additional data sources.

Next Steps
Reach out to learn more about how we could implement this architecture in your organisation via our contact details (top right) or please book some time in our calendar via the following link: bit.ly/cf-chat

Our Services

- Data Platform Design
- CF.Cumulus Deployment
- Technical Oversight
- Architecture Review
- End to End Training

<https://bit.ly/cf-chat>

Delivering Near Real-Time Satellite Internet Analytics Using Microsoft Fabric Paired With Microsoft Azure for Scaled Data Ingestion

Cloud Formations teamed up with Onyx Data to lead the technical design and delivery of a near real-time analytics solution, providing satellite internet (Starlink) usage telemetry to a global service provider.

Solution Overview
The greenfield implementation follows a microservices approach to data handling, leveraging **Azure Functions Apps** to ingest telemetry from the Starlink API at scale and metadata driven, feeding into a **Microsoft Fabric Event Stream**. Bootstrapped by **Integration Pipelines**, data feeds into Realtime Analytics Kusto Databases and Lakehouse structures for reporting using **Power BI** Dashboards.

The platform was managed using a combination of **Azure DevOps** release pipelines, **Git** source control and **Agile** backlogs. Chained together with Microsoft Fabric artifacts deployed using **Workspace Pipelines**.

Use Cases
The solution dashboards keep internet service users informed on:

- Available bandwidth.
- Aggregated data transfers (upload/download).
- Provider usage limits.
- Connection latency and obstructions.

Time Scales
With an expert team led by Microsoft Data Platform MVPs, this solution went from design to delivery in just **2 months**.

Our Services

- Data Platform Design/Build
- Technical Oversight
- Architecture Review
- Data & AI Strategy
- End to End Training

<https://bit.ly/cf-chat>

Delivering 'The Golden Thread' Dataset Using Data Mesh Concepts Supporting Housing & Community Development

Cloud Formations have partnered with a **G15 Housing Association** to pioneer a solution that not only embraces the 'Golden Thread' use case but also revolutionises the Microsoft Data Platform landscape.

What is the Golden Thread? Building Regulations Advisory Committee: golden thread report. See full article: bit.ly/ref-article

The Challenge
The Housing Association industry's data landscape often resembles a labyrinth, hindering insights and innovation. Our client, a leading housing association, faced a critical challenge – how to harness their data unlocking the potential for transformative outcomes while navigating the complexities of the 'Golden Thread' use case. Amongst other business critical deliverables:

- Domain-oriented decentralised data ownership and architecture.
- Data as a product.
- Self-serve data infrastructure as a platform
- Federated computational governance.

Data Mesh Principles
The principles of a data mesh are well defined within the technical community, but often left open to interpretation for businesses seeking to apply them.

The Technology Stack
Using Microsoft Azure cloud native resources, a data mesh architecture is being designed using the following compute and storage components:

- Data Lake
- Data Factory
- Databricks
- SQL Database
- Purview
- Functions
- Microsoft Fabric
- Power BI

All connect and leading to the use of governance as an enabler to do more with data safely.

See Also
Our Data Mesh Reference Architecture, plus others (inspired by this project work). bit.ly/cf-refarch

Outcome
Design a future proof, decentralised data mesh architecture to serve all data requirements across the business, including support for the 'Golden Thread' use case. A platform that will empower business users, unlock value in data assets, federate data governance, feed the overall business data strategy and re-organise siloed data products.

Next Steps
Reach out to learn more about how we could implement this architecture in your organisation via our contact details (top right) or please book some time in our calendar via the following link: bit.ly/cf-bookings

Our Services

- Data Strategy
- Architecture Review & Oversight
- Data Culture & Adoption
- AI Strategy & Consulting
- Data Mesh & Fabric Adoption
- Data Science as a Service
- Training

<https://bit.ly/cf-bookings>

Delivering Real-Time Marketing Analytics Using Microsoft Fabric Outreach Intelligence & Campaign Interactions

Cloud Formations partnered with a management consultancy to deliver a complete set of marketing analytics dashboards based on ongoing outreach initiatives, using industry standard data sources.

Solution Overview
Near real-time streaming of marketing outreach data into Power BI dashboards to provide up to the minute analytics on the performance of campaigns to inform future content and audience enrolment.

The Technology Stack
Using Microsoft Azure cloud native resources, a data mesh architecture is being designed using the following compute and storage components:

- Fabric – Integration
- Fabric – Lakehouse
- Fabric – Event Stream
- Fabric – Notebooks
- Functions App
- Storage Account
- Key Vault
- Power BI

Lambda Architecture Principles
The solution leverages Microsoft Fabric to transform and consolidate high-frequency streaming data with a batch feed into a curated layer ready for reporting.

See Also
Our Data Mesh Reference Architecture, plus others (inspired by this project work). bit.ly/cf-refarch

Outcome
Live operational dashboards to support the Sales Development team with up-to-the-minute data on performance. This allows the team to rapidly test, adjust and optimise sales outreach activity over a time horizon measured in minutes rather than days, massively improving the team's productivity and results.

Next Steps
Reach out to learn more about how we could implement this architecture in your organisation via our contact details (top right) or please book some time in our calendar via the following link: bit.ly/cf-chat

Our Services

- Data Strategy
- Architecture Review & Oversight
- Data Culture & Adoption
- AI Strategy & Consulting
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- Training

<https://bit.ly/cf-chat>

Automated Mailbox Attachment File Ingestion & Processing Using Microsoft Fabric Low Code Data Flows

Cloud Formations assisted a leading utilities provider in creating a low code data ingestion process from an Office 365 mailbox, with built-in data quality checks to minimise the human effort of investigating the quality of files sent to the inbox. Surfacing results in a Microsoft Fabric Lakehouse Workspace.

Solution Overview
This implementation required tooling familiar to the Finance Team which have ownership of the mailbox contents, and the process. As such, Power Query was used via **Microsoft Fabric Dataflows** to create a low code process for extracting the relevant files from the mailbox in a reproducible and interpretable way. **Microsoft Fabric Data Pipelines** were then used to bootstrap the activities and provide the basis for the required data quality checks and subsequent alerting. Once ingested all data was served through a SQL Analytics Endpoint to users via a **Microsoft Fabric Lakehouse** view offering data to consumers of the compliant files in a Silver data layer ready for further modelling and aggregation is Power BI.

Outcome
The solution framework allowed the team to:

- Provide business users with a unified view of validated data received in the inbox.
- Mitigate manual quality troubleshooting tasks.
- Work with familiar tools with little upskilling requirements.

Time Scales
The implementation was produced within a single technical sprint of 10 days, focussed on the following stages:

Next Steps
Reach out to learn more about how we could implement this architecture in your organisation via our contact details (top right) or please book some time in our calendar via the following link: bit.ly/cf-chat

Our Services

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- Technical Oversight
- Architecture Review
- Data & AI Strategy
- End to End Training

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“Cloud Formations provide insight and pragmatic advice based on deep understanding and experience across a range of technical domains. I value their sleeves rolled up approach and willingness to flex across a range of requirements.”

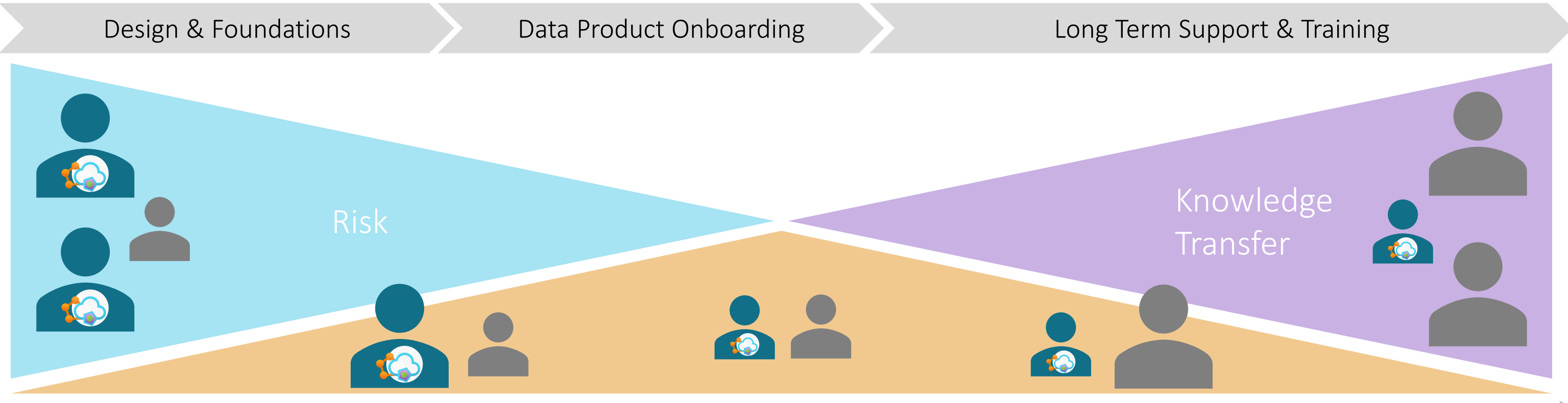
“Cloud Formations recently facilitated a value discovery session with us using their engagement framework. The insights and outputs from this session have proven incredibly valuable and we are excited to collaborate with them on the next steps in our journey.”

“We have partnered with Cloud Formations and its team of SMEs for several years on many different projects. Having them as a trusted advisor to inform data and technical strategy has been incredibly valuable. They have and continue to support to us in the design and delivery of a data mesh platform allowing us to scale our data products for affective business user consumption.”

Collaboration & Knowledge Sharing



As Standard In Our Approach



One Team

Embracing collaboration among our teams and clients for shared success

Integrity

Upholding the highest ethical standards, ensuring trust and transparency with our clients

Staying Tune to Our Values

Delivery Excellence

Committed to exceptional outcomes in all aspects of delivery & service

Innovation

Continuously seeking new ideas, technologies, and methodologies

Our Structure

Founders



Daniel Addy
CEO



Paul Andrew
CTO



Non-Executive Directors



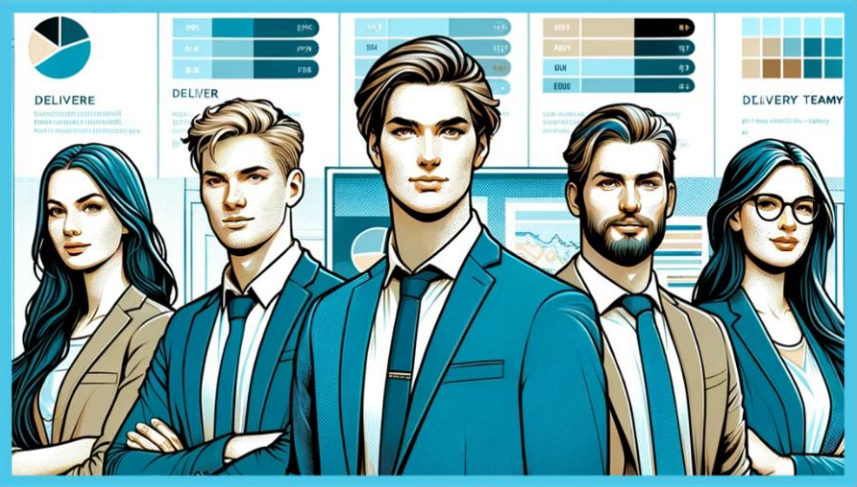
Operations Squad



UK Delivery Squad



EU Delivery Squad



Managed Service Squad



Having a Social/Community Impact



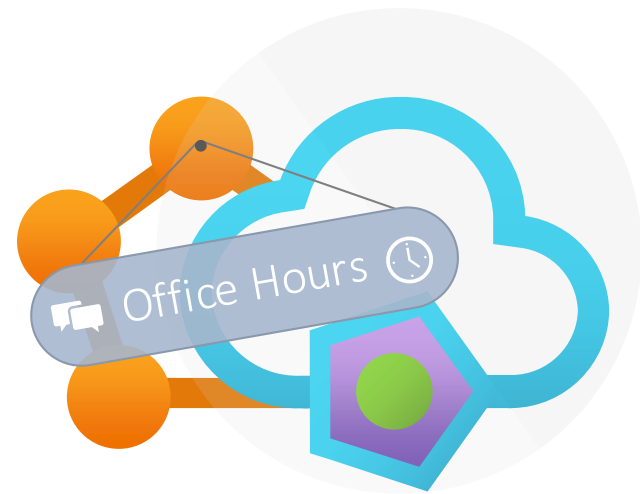
We sponsor and organise a free to attend community user group every month.
<http://eastmidlandsdata.com>



As part of the STEM program we sponsor and organise a coding club for the local primary school.



We publish free to consume blog posts on our website offering tech guidance and news.



Every month we host a free to attend online technical forum. Open to all.
[Office Hours](#)



We organise and encourage a companywide Give Blood initiative.
38 pints donated to date.



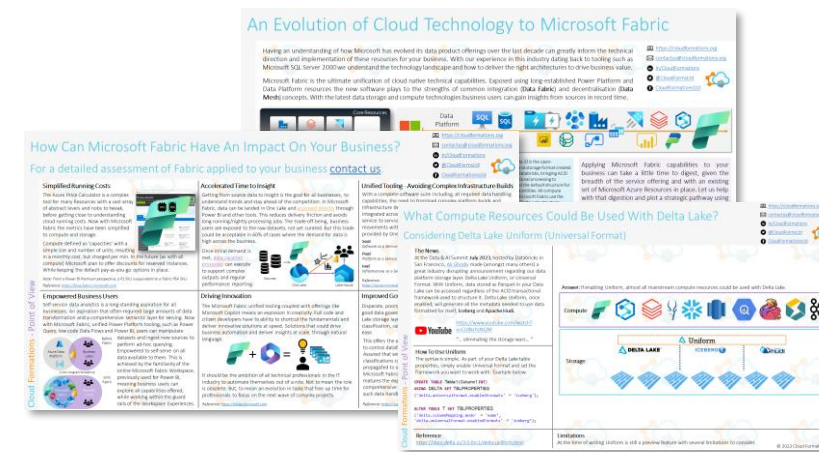
We actively speak at free to attend community events. Sharing knowledge and experience.



We open source our core code assets for use by anyone in the industry.



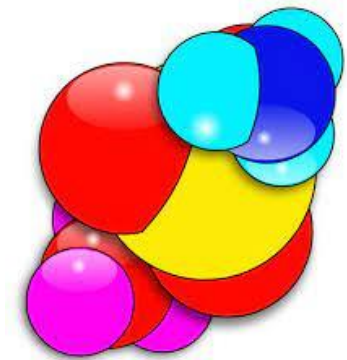
We host and deliver a free to listen community podcast offering advice to entry level data professionals
<http://techhandshake.com>



We publish free to consume technical points of view (one pagers) on the latest cloud resources.



We sponsor and organise the annual, free to attend community conference.
<https://datarelay.co.uk>



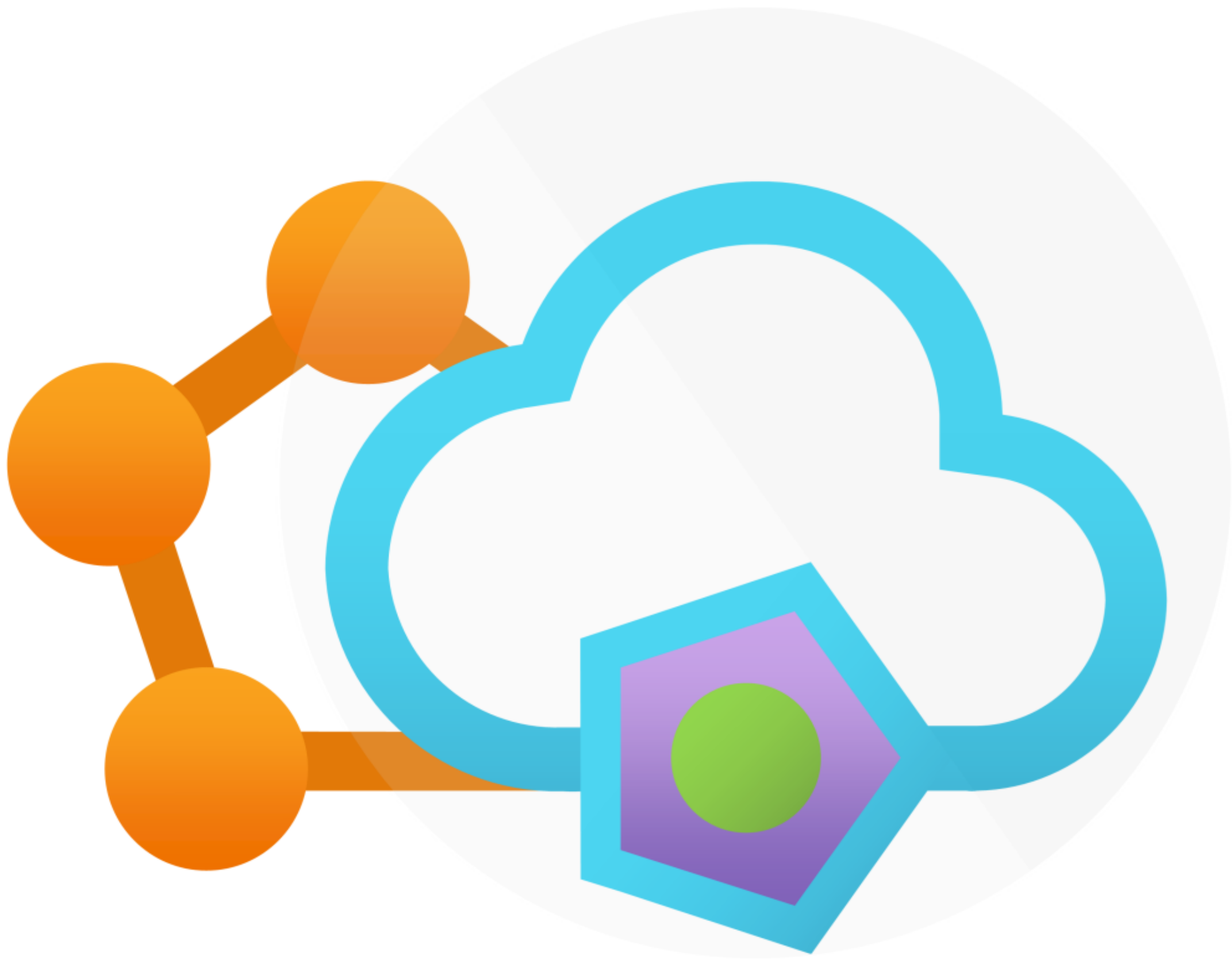
We encourage the use of Folding @ Home software on company workstations to solve wider community problems through distributed workload processing. 909 work units completed to date.

Why Cloud Formations?



Led by over 30 years of experience in the data industry.





Thank You

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