COLLINSON

Developing and Maintaining a Data Centric Approach

Jean Ortiz Perez, Head of Analytics I&A, Collinson
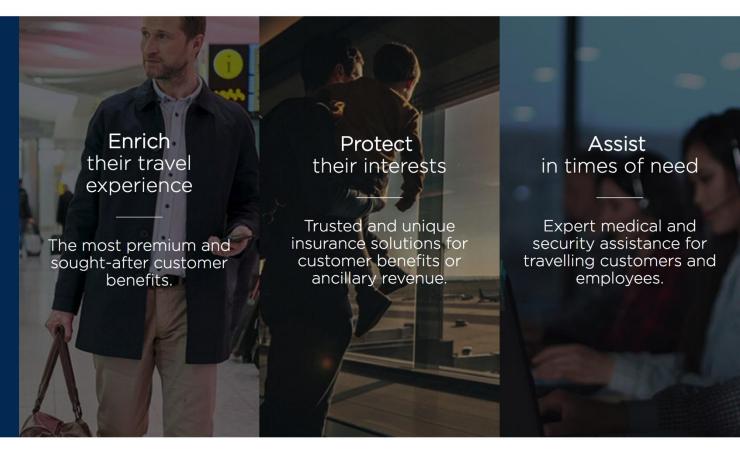
Customer experience is the ultimate battleground

We are on a mission to deliver smarter customer experiences that say a brand,

"knows me, cares about me

and will go the extra mile"

Engage
deeper with your
customers

———

Smarter loyalty solutions
that drive more
profitable relationships.

Enrich
their travel
experience

———

The most premium and
sought-after customer
benefits.

Protect
their interests

———

Trusted and unique
insurance solutions for
customer benefits or
ancillary revenue.

Assist
in times of need

———

Expert medical and
security assistance for
travelling customers and
employees.

COLLINSON

Engage
deeper with your customers

Smarter loyalty solutions that drive more profitable relationships.
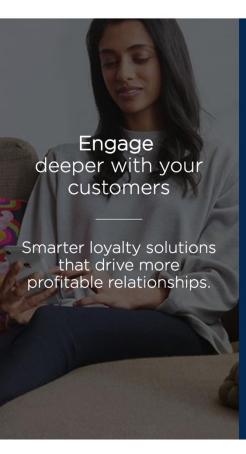
Our unique combination of loyalty strategy, award-winning technology and programme management create better experiences for your customers.

✓ **Loyalty Expertise**

✓ **Loyalty Services**

✓ **Loyalty Solutions**

LEARN MORE

Enrich
their travel experience

The most premium and sought-after customer benefits.

Protect
their interests

Trusted and unique insurance solutions for customer benefits or ancillary revenue.

Assist
in times of need

Expert medical and security assistance for travelling customers and employees.

Engage
deeper with your customers

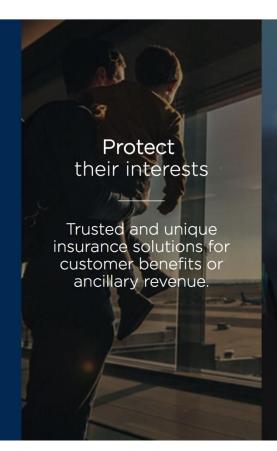Smarter loyalty solutions that drive more profitable relationships.

Enrich
their travel experience

The most premium and sought-after customer benefits.

Our proprietary travel benefit programmes (including world leader Priority Pass) enrich your travelling customers' journeys through airports, regardless of airline flown or class of ticket.

- ✓ **Priority Pass™**
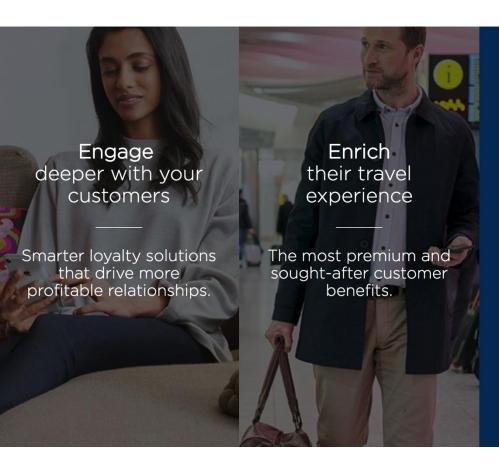- ✓ **LoungeKey™**
- ✓ **Lounge Pass™**

LEARN MORE

Protect
their interests

Trusted and unique insurance solutions for customer benefits or ancillary revenue.

Assist
in times of need

Expert medical and security assistance for travelling customers and employees.

COLLINSON

Engage
deeper with your customers

Smarter loyalty solutions that drive more profitable relationships.

Enrich
their travel experience

The most premium and sought-after customer benefits.

Protect
their interests

Trusted and unique insurance solutions for customer benefits or ancillary revenue.

Our insurance solutions blend our unique experience across sectors to deliver smarter insurance products that respond to the individual needs of each customer.
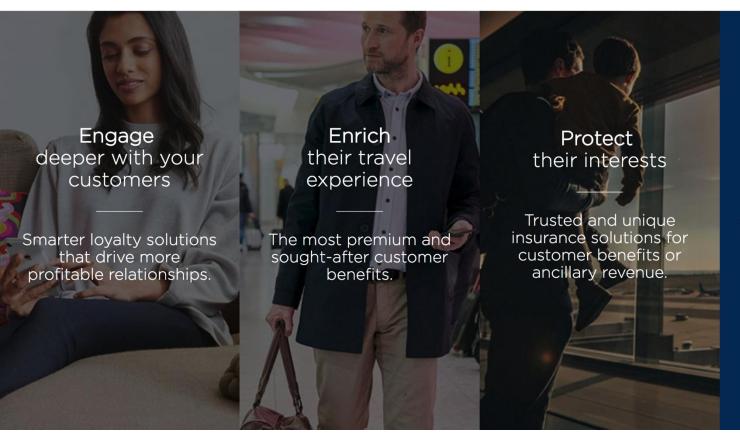
- ✓ **Travel Insurance**
- ✓ **Global Health**
- ✓ **Insurance Broking**

LEARN MORE

Assist
in times of need

Expert medical and security assistance for travelling customers and employees.

COLLINSON

Engage
deeper with your customers

Smarter loyalty solutions that drive more profitable relationships.

Enrich
their travel experience

The most premium and sought-after customer benefits.

Protect
their interests

Trusted and unique insurance solutions for customer benefits or ancillary revenue.

Assist
in times of need

Expert medical and security assistance for travelling customers and employees.

Our dependable assistance services deliver relevant, immediate and critical care for those in need, as well as digital identity and global travel management and care.

- ✓ **Travel Risk Management**
- ✓ **Identity Assistance**
- ✓ **Travel Disruption Assistance**

LEARN MORE

COLLINSON

Key topics

1 — Lobbying for data as an imperative

2 — Building a data strategy that works for all

3 — Ensuring data and projects governance

4 — Promoting data and analytics to identify/deliver corporate strategy

5 — Breaking down silos: Integrating data products to business disciplines

6 — Empowering leadership, to enable cultural change

COLLINSON

Key topics

1 **2** **3**

Data Lake Technical build, Data Security & Governance, Data Custodians & Stewardship models

4 **5** **6**

Self-service Insights and Data Products tailored to the line of business

Empowering leadership, to enable cultural change

COLLINSON

Data Lake
Technical Build

COLLINSON

GDLK Overview

Value

Build

Build, improve and Secure the Platform

Maintain and monitor

Build and integrate innovative frameworks
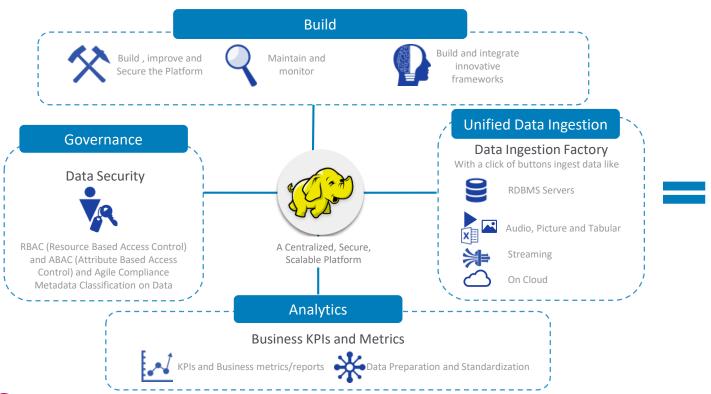
Onboard Apps

Centralized Enterprise Data

Business metrics and KPIs

Governance

Data Security

RBAC (Resource Based Access Control) and ABAC (Attribute Based Access Control) and Agile Compliance Metadata Classification on Data

A Centralized, Secure, Scalable Platform

Unified Data Ingestion

Data Ingestion Factory
With a click of buttons ingest data like

RDBMS Servers

Audio, Picture and Tabular

Streaming

On Cloud

Knowledge Graph
Catalogue and Search

Business Intelligence

Machine Learning Insights

Analytics

Business KPIs and Metrics

KPIs and Business metrics/reports

Data Preparation and Standardization

AI based Data Security

COLLINSON

SQL Engine (Similarity)

1. Higher level query language – Simplifies working with large amounts of data
2. It is scalable, familiar, and extensible.
3. It also supports partitioning of data at the level of tables to improve performance.

1. Helps connect to any Hive database using JDBC Drivers
2. Present in all the major operating system
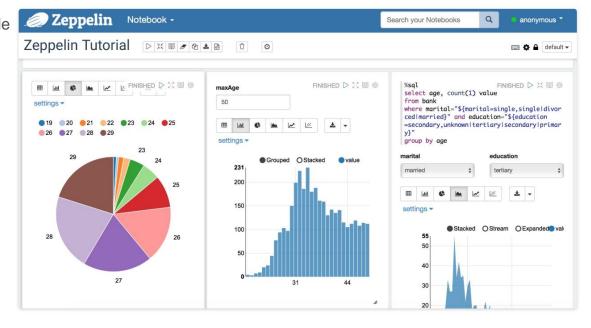
COLLINSON

EDA and Visualization

Interactive browser-based notebooks enable data engineers, data analysts and data scientists to be more productive by developing, organizing, executing, and sharing data code and visualizing results without referring to the command line or needing the cluster details.

Can run variety of programs:
- Hive
- Py-spark
- Shell
- Python

https://zeppelin-ui.collinsondataproducts.com/

Extract / Transform & Load

APACHE nifi

Principle

- Use separate environments
- No flows at root level: use a PG per department, BL, project, etc.
- Break your flow into process groups
- Use a naming convention, use comments (labels, comments)
- Use variable when possible
- Organize your projects into three PGs: ingestion, test & monitoring

Benefits

- Performance, security and SLA
- Easy to secure, everything in NiFi is attached to a PG, heritage
- Easy to test, update & version
- Very useful for development/monitoring. Ideally use unique names
- Promotion (dev > test > prod), update
- NiFi can generate data for TDD (Test Driven Dev), can collect/parse logs for BAM (Business App Monitoring)

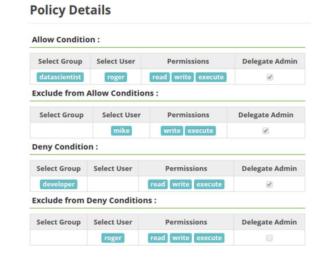https://nifi-ui.collinsondataproducts.com/nifi

COLLINSON

Security and Permission

It is a framework to enable, monitor and manage data security across the Hadoop platform. It currently provides a centralized security administration, access control and detailed auditing for user access within the lake

- Dynamic column masking
- Dynamic column row filtering
- Dynamic policy conditions User context enriches
- Classification or tag based policies for Hadoop ecosystem components via integration with Apache Atlas.

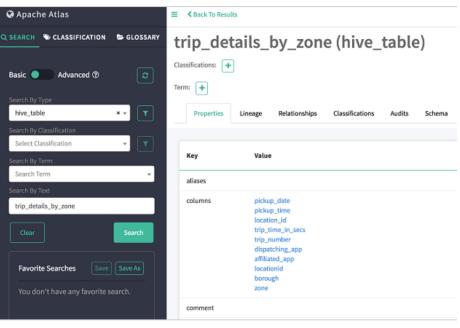https://ranger-ui.collinsondataproducts.com/login.jsp

Apache Ranger

Policy Details

Allow Condition :

Select Group	Select User	Permissions	Delegate Admin
datascientist	roger	read write execute	✓

Exclude from Allow Conditions :

Select Group	Select User	Permissions	Delegate Admin
	mike	write execute	✓

Deny Condition :

Select Group	Select User	Permissions	Delegate Admin
developer		read write execute	✓

Exclude from Deny Conditions :

Select Group	Select User	Permissions	Delegate Admin
	roger	read write execute	☐

COLLINSON

Governance

Metadata types & instances

- Pre-defined types for various Hadoop and non-Hadoop metadata
- Ability to define new types for the metadata to be managed

Classification

- Ability to dynamically create classifications - like PII, sensitive, child info, etc.
- Classifications can include attributes - like expiry date

Lineage

- Intuitive UI to view lineage of data as it moves through various processes

Search/Discovery

- Intuitive UI to search entities by type, classification, attribute value or free-text

https://atlas-ui.collinsondataproducts.com/login.jsp

Data Strategy
Data Custodians & Stewardship Model

What does Data Strategy look like?

Roles		Responsibilities
CDAO		• Sponsorship • Executive accountability • Data Strategy • Governance & GDPR accountability
Data Custodians		• Governance & Security execution • Data infrastructure build • Technical component management • Cloud Storage Management
Data Stewards		• Data Definition ownership • Business rules ownership • Data Quality management • Data Reusability
Business SME's		• Subject area accountability • Data profiling • Data requirements • Logic definitions

Data Consumers

COLLINSON

18

Developing and Embedding Data Products across the different Lines of Business

What does Data Strategy look like?

Technical Community

Head of Analytics

Data Engineer

Data Scientist

Data Analyst

Business Lines

Exec Board

P&L Directors

Data Stewards

Business SME's

Data Stewards

COLLINSON

Thanks for your time

COLLINSON