

**RED HAT
SUMMIT**

Next Generation Microservices- based Data and Analytics Solution

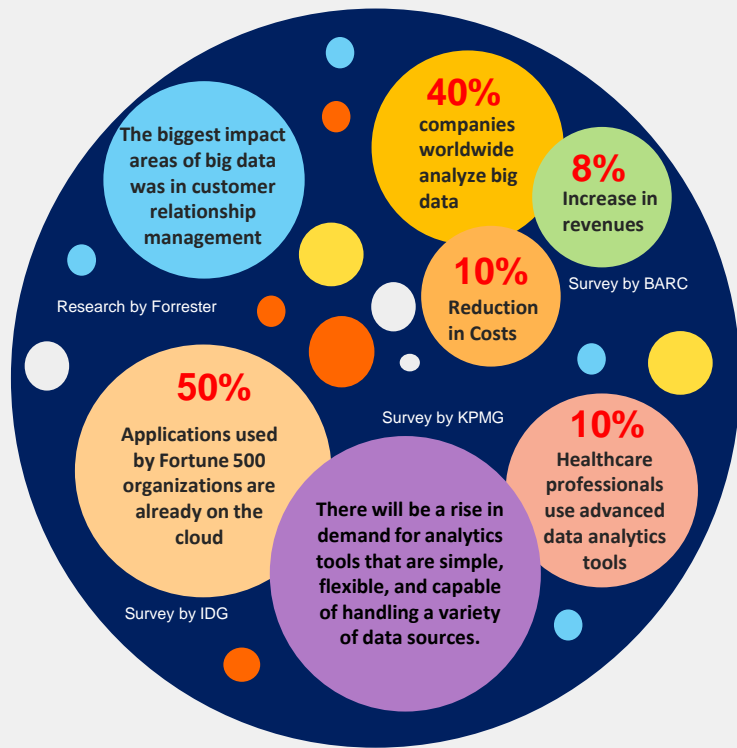
Gaurav Kakad – Solution Architect, Tata Consultancy Services
Bryan Werwick – Solution Architect, Tata Consultancy Services

May 9, 2018

Agenda

- ❑ Business Problem
- ❑ Our Solution
- ❑ Benefits & Features
- ❑ Technology Landscape & Architecture
- ❑ Demo

Impact of Big Data & Analytics



A large **American bank** is using sophisticated predictive models to analyze historical transactions and 115 variables to forecast customer churn. The company believes it can now accurately identify **24%** of accounts within its Australian branch that will close within the next four months and can take required steps to prevent them from churning.

Analyzing big data helped a large **printer manufacturer** to cut the attrition rate at their call centers by over **20%** – a significant and tangible financial saving.

A large local **bank** by market capitalization in Singapore that operates in 15 countries world wide was able to achieve higher customer engagement and increase customer satisfaction by **20%** compared to a control group. The bank was able to benefit by responding to the customer actions, personal lifetime events and demographic profiles.

Business Problem

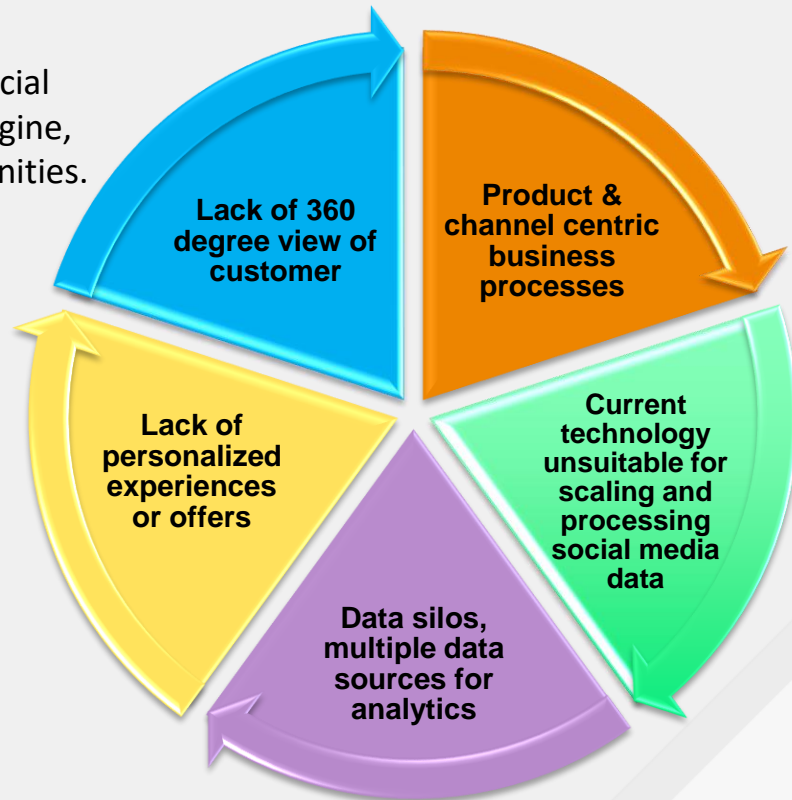
Different marketing units working in **silos** and **unavailability** of social media profile of a customer created a **half-matured** marketing engine, **unsatisfactory** customer experience and **loss** of business opportunities.

Roadblocks for business were:

- Unfocussed marketing efforts
- Disparate Business Intelligence units
- Unconsolidated data & inaccurate insights
- Extended cycle time to process data
- Lack of coordination between big data teams
- Dependency on legacy systems to process data
- Non-standard governance process for data

Reasons for unsatisfactory customer experience were:

- Unsolicited promotions/offers
- Spam emails/multiple communication
- Brand loyalty benefits not streamlined
- Slow complaint resolution



Our Solution

A **Microservices-based** Big Data and Analytics solution that will help you to understand your customer better. It is based on the **Hybrid Cloud** and **Container Framework**. It will provide a unified view about your customers by blending their transactional and digital profile. You can gain **deep insights** about your customer, through a single platform.

- ✓ Blends customer's digital and transactional persona
- ✓ Shows real-time dashboard view
- ✓ Tracks customer's digital foot prints and identifies hotspots for cross/up sell
- ✓ Forecasts future trends, sends alerts, notifications, and initiates call for actions
- ✓ Captures customer information through Clickstream, survey, email content and social media analytics
- ✓ Determines Next Best Offers (NBO), Next Best Actions (NBA) and Next Product to Buy (NPTB) models



Benefits

- ✓ Creating better customer experience
- ✓ Improved lead generation & customer service
- ✓ Reduced marketing & service cost
- ✓ Increased ROI by data driven offerings & targeted marketing
- ✓ Better and informed decisions

**Innovative
Statistical
Models**

**Sentiment
Analysis**

**Multi -Channel
Analytics**

**Customer
Intelligence**

**Campaign
Metrics**

**Single View of
Customers**

**Predictive
Analysis**

Benefits

- ✓ Powered by **Red Hat OpenShift Container Platform**, it provides consistent application development and deployment platform for **hybrid cloud**.
- ✓ Enterprises can leverage **Agile** and **DevOps** methodologies and technologies leading to **accelerated time-to-market** for new applications and services.
- ✓ It is a **Microservices-based** application architecture. Enables dynamic scaling requirement of the enterprises.
- ✓ Improved Agility & Scalability—through **pay-as-you-go cloud based model**.
- ✓ Increased profitability by leveraging data-driven insights to **expedite decision-making**, increase focus on **customer-centric business processes**, and maximize **customer lifetime value**.
- ✓ The solution harnesses an Open Source centric and continuous innovation led architecture around **Cloud and Machine Learning** and is **relevant for all industries** across both horizontal as well as industry micro-vertical specific use cases.



Features

Machine Learning, Advanced Predictive Analytics & Recommendation System



Allow organizations to analyze and correlate data generated at every stop of the customer's journey. The collected information can be accessed and analyzed at any given time, to gain systematic understanding of the customer's sentiments. It will help to streamline operations by predicting consumer behavior and reduce churn through Advanced Predictive Analytics and Recommendation Systems.



Advanced Dashboard

A single dashboard will provide all business KPI's. It will be able to send alerts, notifications and initiate call for action.

Ready framework for Data Ingestion & Management



All the data from core applications and social media channels will be collected automatically. Data will be governed by automated and mandatory meta - data management system.

Security & Controlled Access in real-time



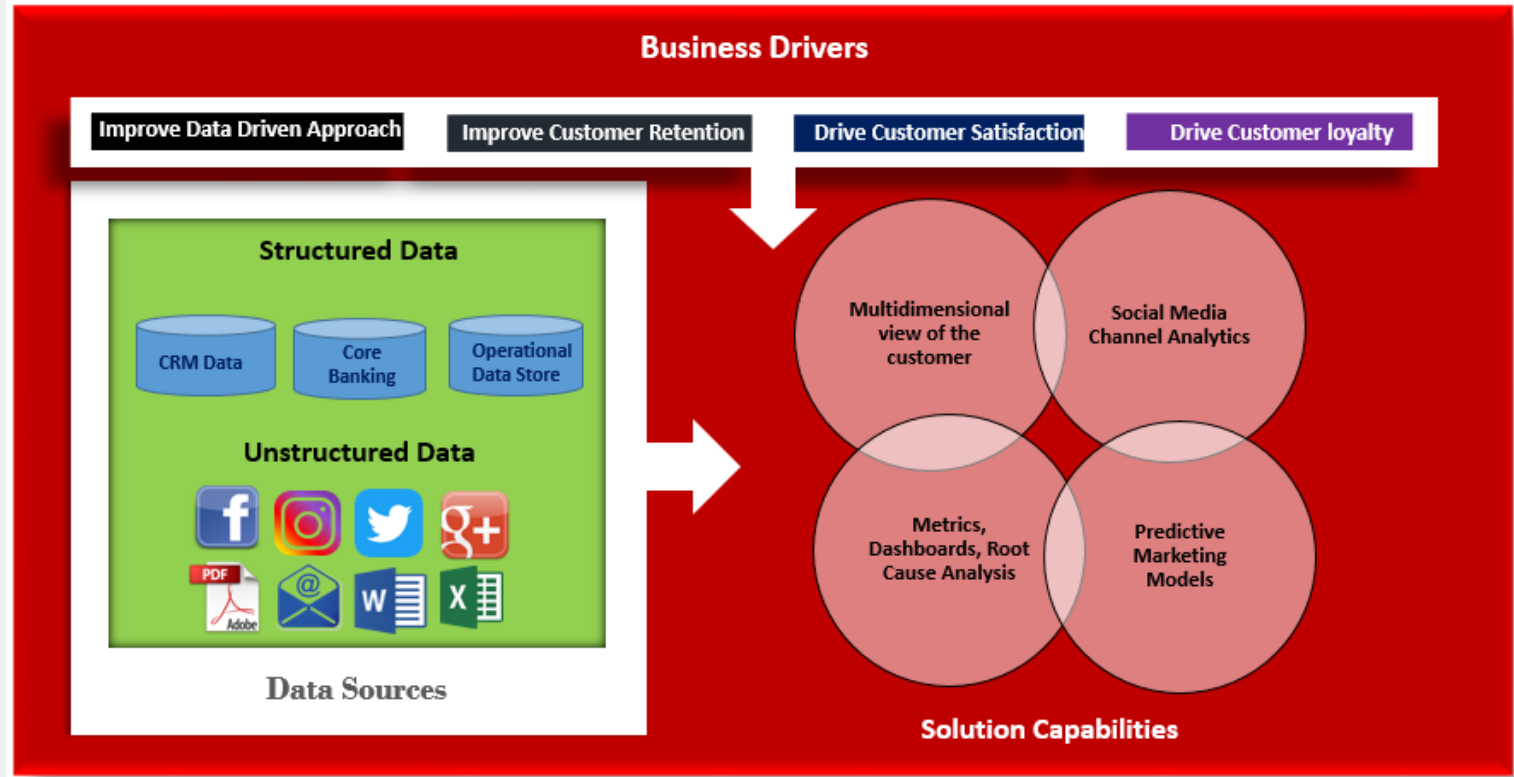
The solution will offer role based user access to the applications. It will provide secured remote login and encrypted communication between the client and the applications.

Easily integrated system, on the cloud



Now you will be able to schedule jobs, provision and manage data with an easily integrated system. It will allow you to make choices about Private vs Public Cloud in terms of Data Residency and still have consistent developer and business user experience.

Business Drivers



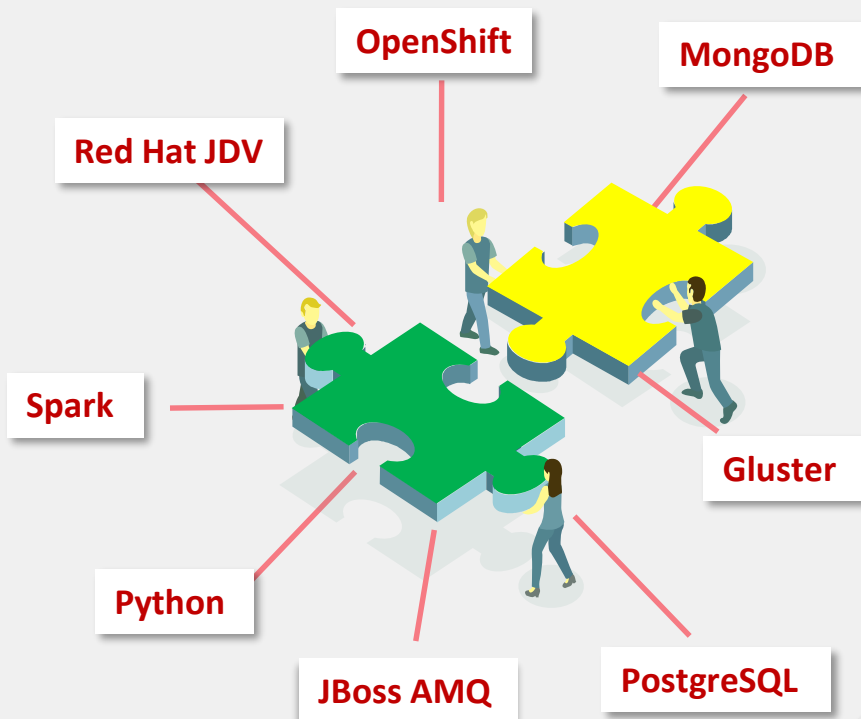
Technology Landscape

Red Hat Suite of Products

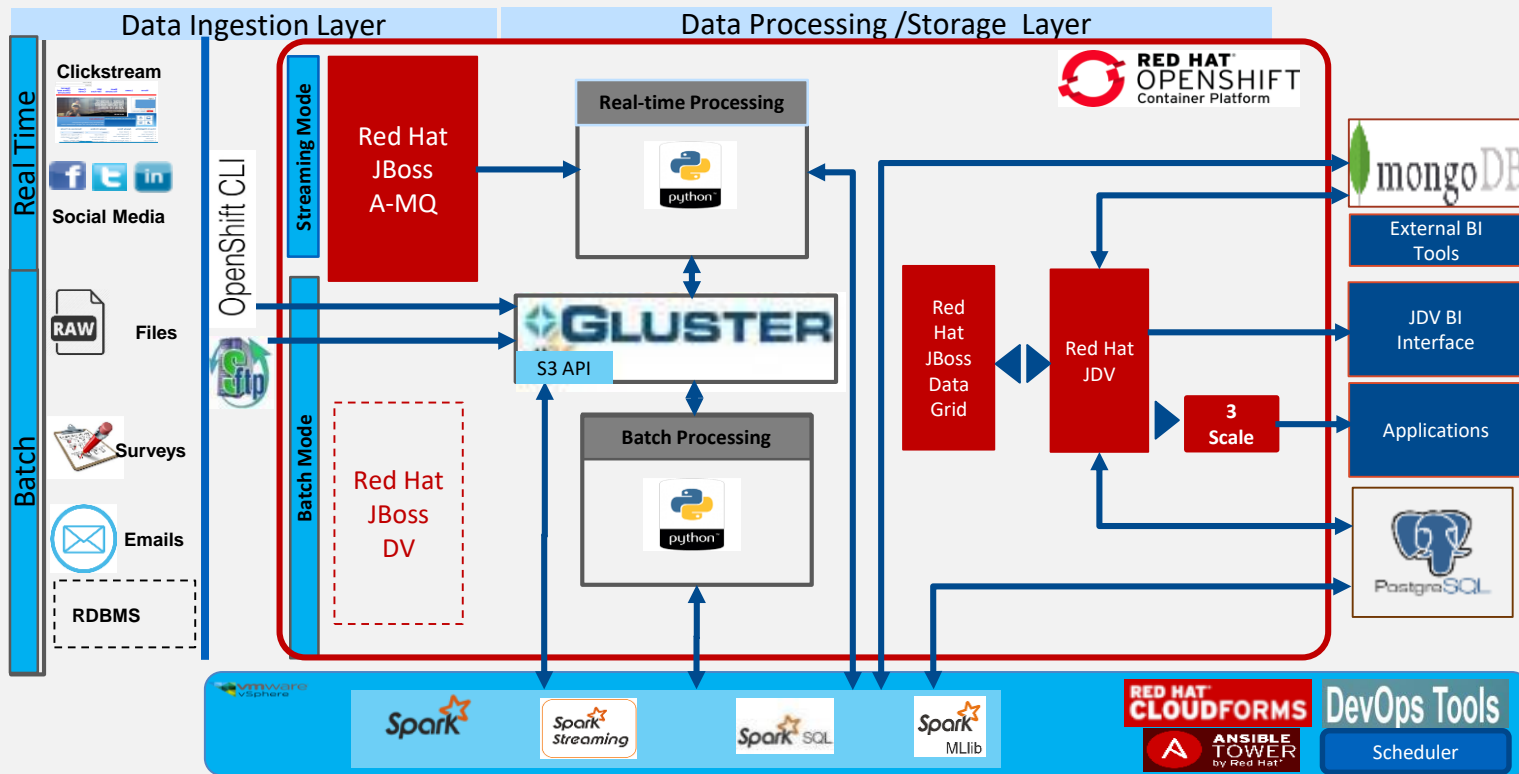
- OpenShift Container Platform
- JBoss Data Virtualization
- JBoss AMQ
- Cloud Mgmt. & Automation
- Red Hat Operations Network
- Ansible Tower
- 3-Scale AMP
- GlusterFS

Other Tools / Software

- PostgreSQL
- MongoDB
- Python
- Apache Spark



Architecture



Use Case

Flashback to before 'Customer Analytics'



Can I get information across all the Customer touch points?



Is it possible to get better insight from introducing Customer feedback along with Operational data?



Will it be possible to provide futuristic view for some key business indicators?



Pre-deployment scenario

Predictive & Prescriptive

Communication

Social



Clickstream

Survey

Email

The Problem Statement



Aaron

Aaron is a long-term customer of the bank, with multiple accounts. He likes the **convenience of online services** but becomes frustrated when things don't work as easily or as quickly as he'd like. In such cases, he browses through other Bank's site to get better option.

He **doesn't hesitate** to drop a mail to the customer service or write comment on Bank's social handler/ page when he has a problem and has done so on a couple of occasions in the last month.

Portfolio Manager – Start of the Day



Can I get information across all the Customer touch points?



Is it possible to get better insight from introducing Customer feedback along with Operational data?



Will it be possible to provide futuristic view for some key business indicators?



Portfolio Manager



After 2 attempts to complete his bank's online Personal Loan application, Aaron gives up and drop mails to Customer service and write comment on Bank's social handler/ page.

Through his **segmentation analysis**, the Portfolio Manager finds out Aaron's **demographic, transactional, social, clickstreams** and other **behavioral data points** and able to see his failed attempts to submit his Personal loan application; he also sees that:

- Aaron recently dropped mail to Customer service as well as lodge complaint through social media about difficulty with other online services
- Browsed on web platform on Personal loan of other Banks' and compared the rates

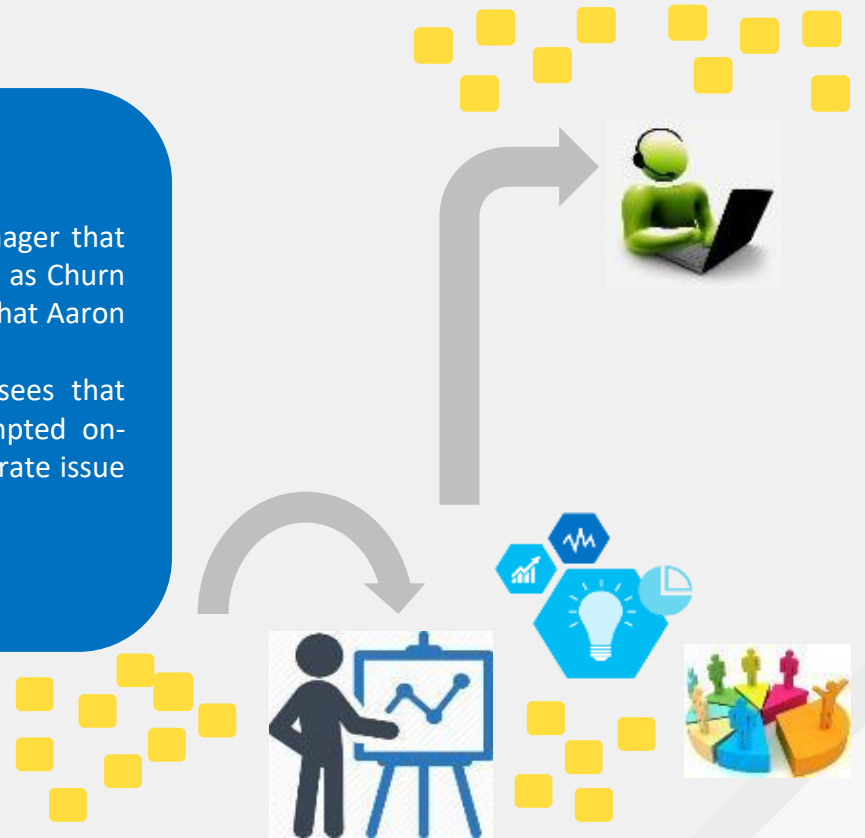


Portfolio Manager



The combined issues alerts the Portfolio Manager that Aaron's satisfaction score has declined as well as Churn Propensity has increased which gives an alert that Aaron may be a high Churn risk.

At the same time, Portfolio Manager also sees that Aaron is a high-value Customer and is prompted on-screen to escalate Aaron's complaint to accelerate issue resolution.



Next Best Offering

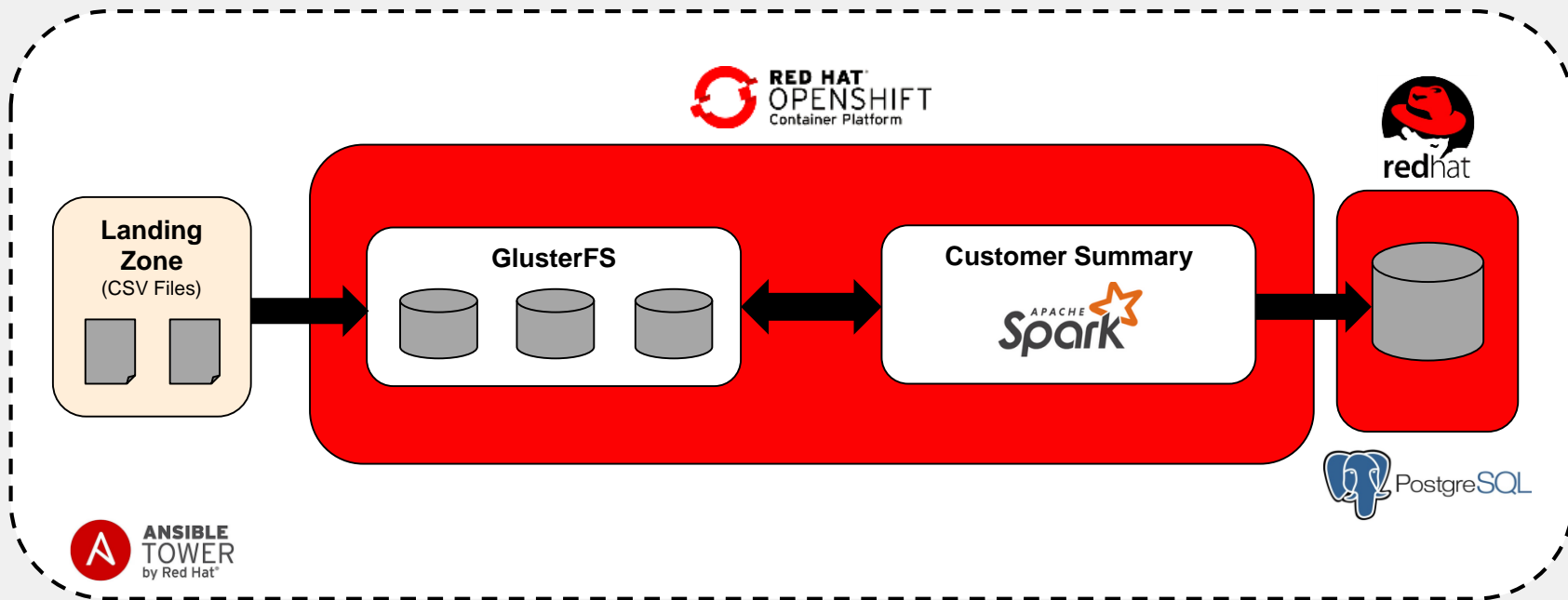


- i. Connect Aaron via video chat to one of Bank's Personal Loan officers to complete his Loan application without any further difficulty
- ii. Uncover new customer insight by analyzing web behaviors, which helped guide development of more personalized offers and marketing outreach

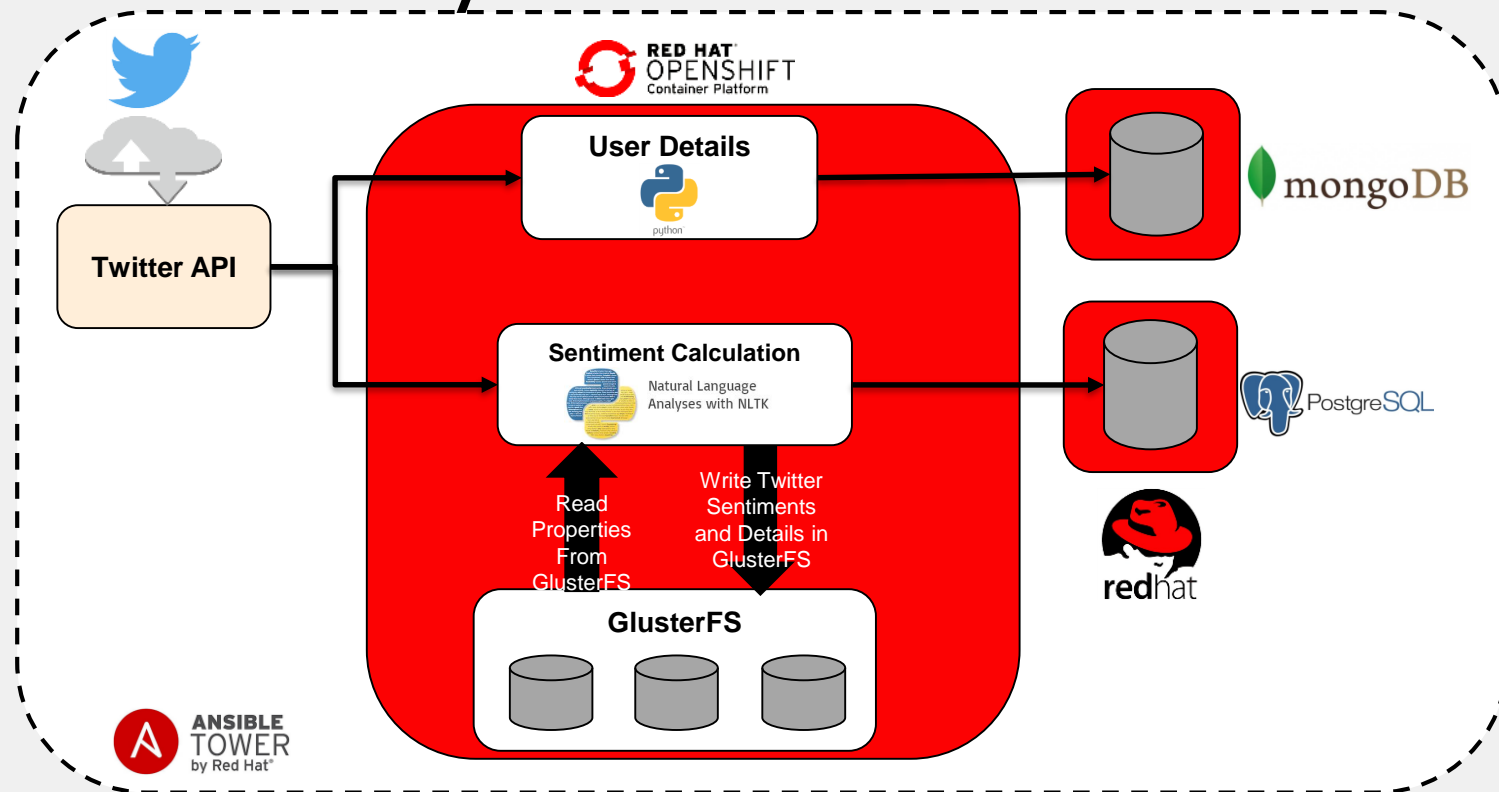


Demo - How we achieved this?

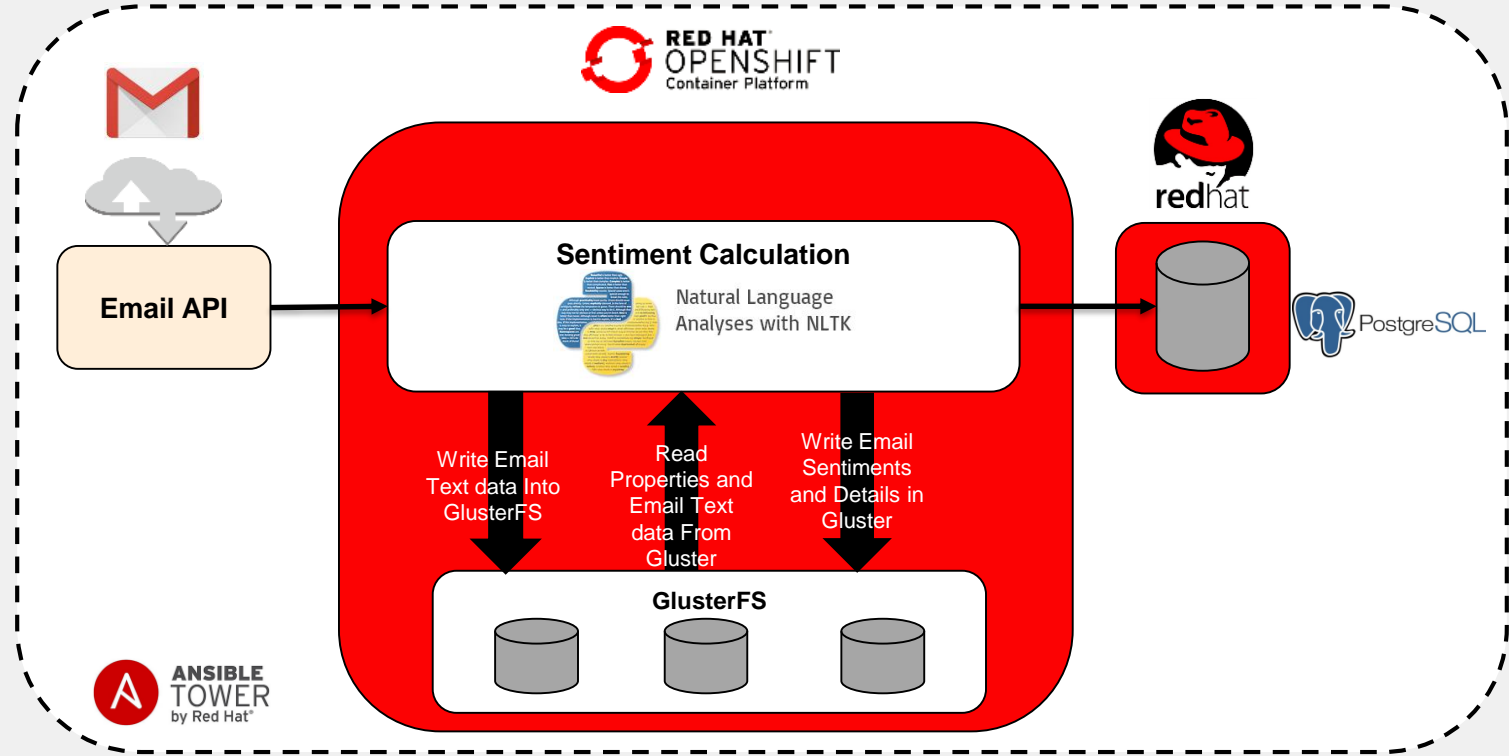
Customer Transactions



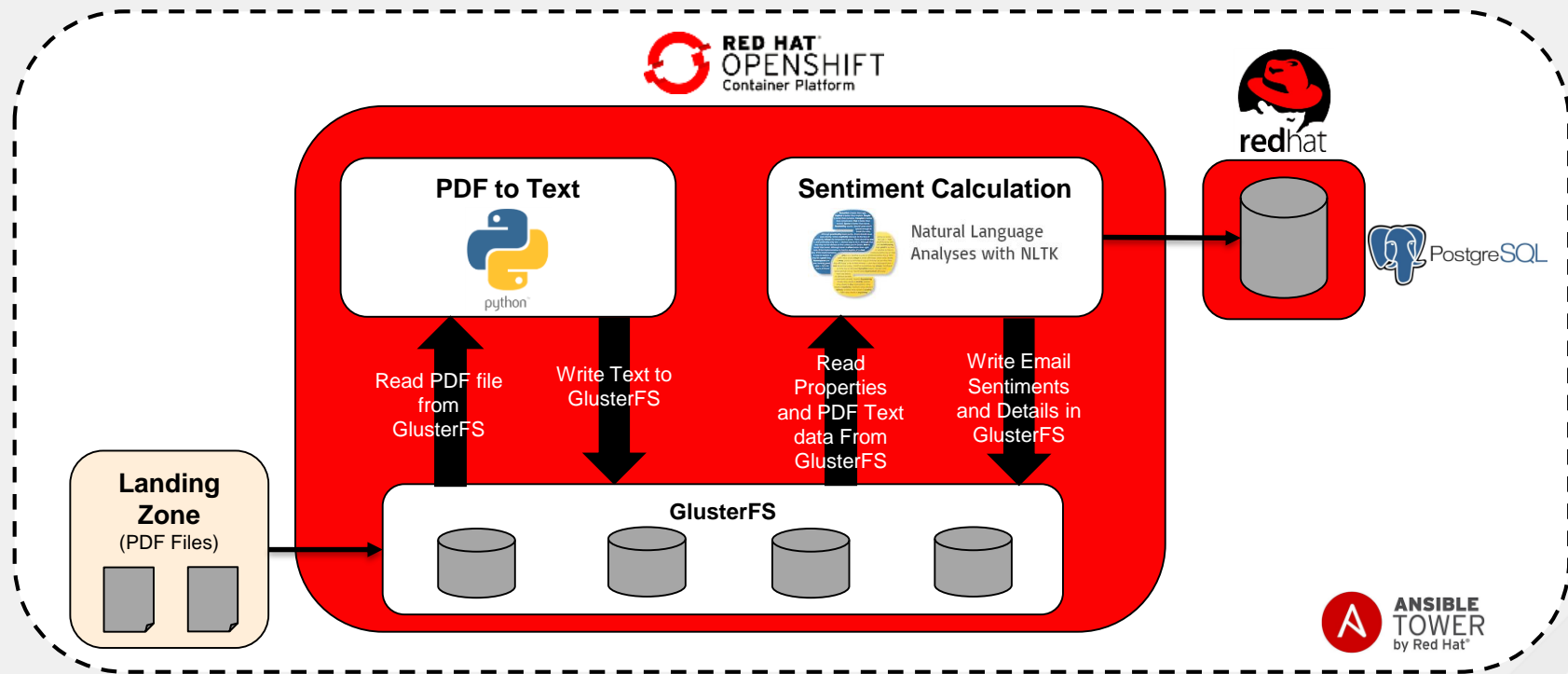
Sentiment Analytics – Twitter



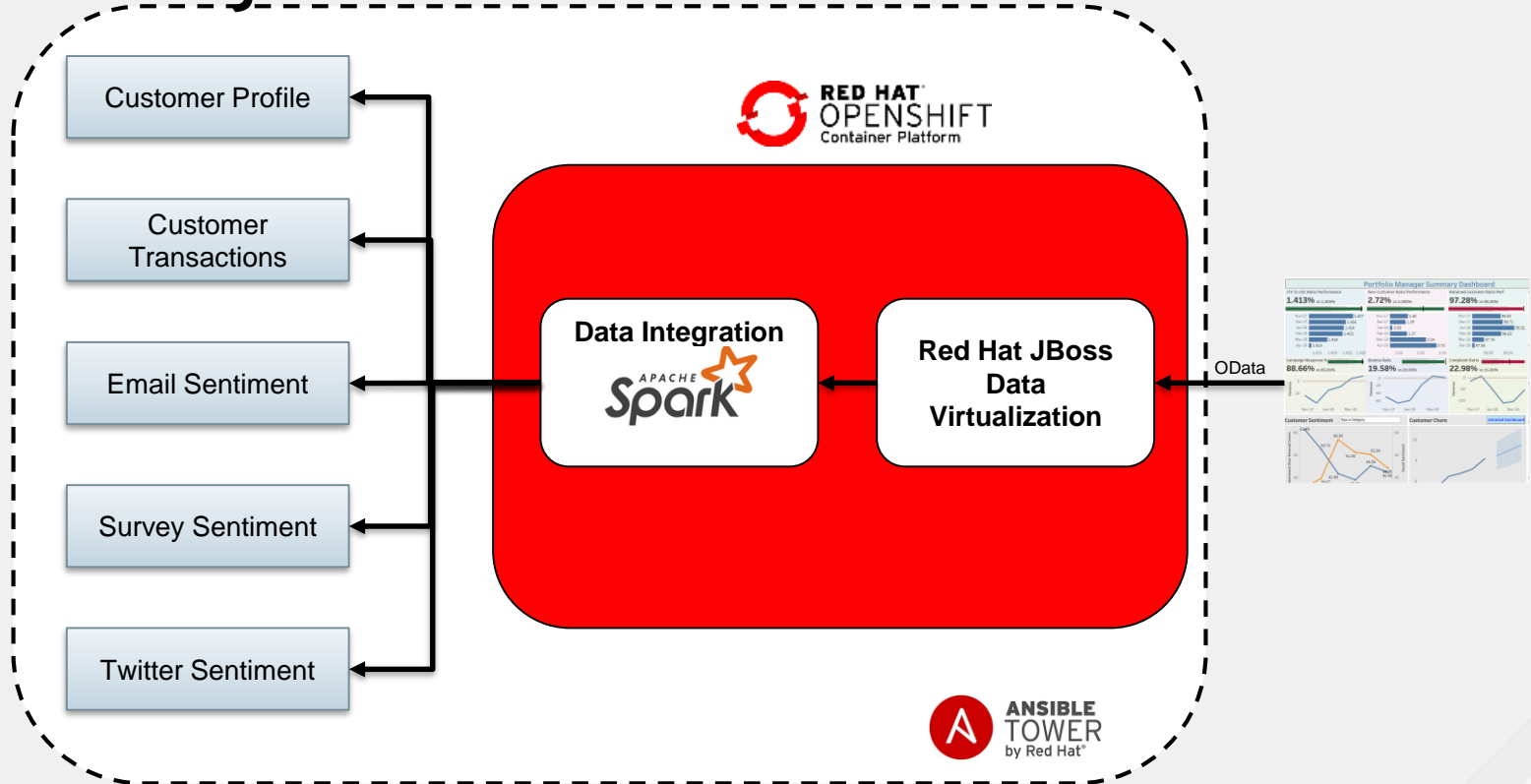
Sentiment Analytics – Email



Sentiment Analytics – Customer Surveys



Data Integration



Q&A

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