Customer Success Story

New Day

FOUNDED IN: **2001**
LOCATION: **UNITED KINGDOM**
AREA OF FOCUS: **FINANCE**
USE CASE: **FRAUD & AML**

NewDay Intercepts Fraudulent Credit Card Applications with TigerGraph Cloud

Introduction

NewDay is a financial services company specializing in consumer credit products in the United Kingdom. With revenues approaching £1bn, the company has nearly five million customers across some of Britain's largest online retailers and best-known credit cards. In 2020, it issued 19% of new credit cards in the UK and recorded 10 million transactions per month.

An innovator in the market, NewDay is always scanning the horizon for new opportunities and innovative ways of addressing challenges in the rapidly changing financial services market – and its approach to fraud prevention is no different.

The Challenge

NewDay's strong footprint in the credit card market, including the subprime segment, comes with a high risk of fraud. It is a constant battle to prevent the fraudsters, often working in organized gangs, from joining the card networks. Fraudsters seek to exploit credit card companies in three ways:

- **Application fraud** – applying for a credit card using fake or stolen credentials

- **Transaction fraud** – using stolen cards or card details obtained through third-party data breaches

- **First-party fraud** – spending by existing customers against uncleared funds or with no intention of paying the credit card balance

The objective is to intercept the fraudsters as early as possible by detecting, investigating and disrupting their activities. However, legacy databases could not analyze the necessary volumes of data quickly enough to block the fraudsters while maintaining high transaction speeds. The company also wanted to minimize false positives to ensure the most efficient use of fraud investigators' time. Additionally, NewDay wanted to give their investigators a 360-degree view of cases on one screen and needed a tool to bridge the many internal and external information sources used as a part of the fraud investigation process.

FINDING FRAUD RINGS BY CONNECTING ACCOUNTS AND TRANSACTIONS
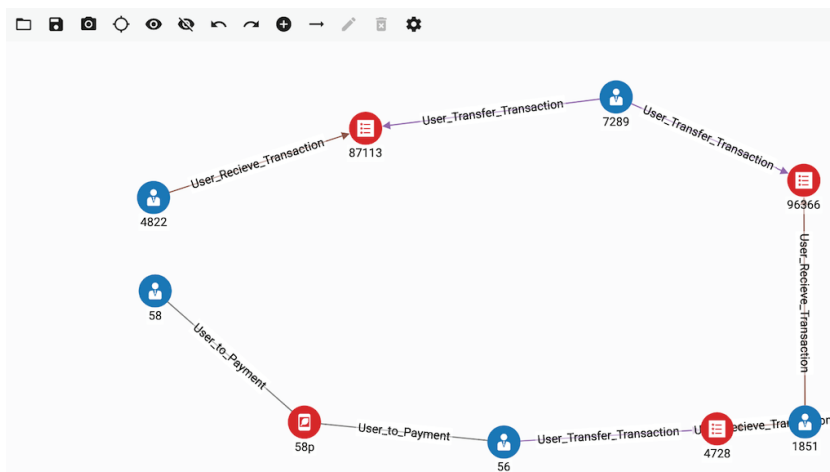
TigerGraph Cloud Starter Kit for fraud and money laundering

The Solution

NewDay knew it needed a graph database and after evaluating the competition chose TigerGraph for its scalability, flexibility, and ease of use. TigerGraph Cloud – the first scalable graph database-as-a-service – integrates data from multiple silos and provides native analytical tools which enable machine learning and fine-tuning of complex algorithms by non-developers.

This was important because one of NewDay's objectives was to empower its investigators to break out of their silos. As investigators encountered new patterns of fraud, they wanted to share that information with fellow investigators while also encoding it in TigerGraph so the system could identify similar cases going forward.

Now they can fine tune queries in near real-time with 'train of thought' analysis without developer resources. This helps across all three of the major fraud vectors by:

- **Application fraud** – linking data from new applications back to known fraudulent actors through deep-link analysis of shared attributes while tapping into multiple external databases such as Experian, Cifas, Telesign, and others.

- **Transaction fraud** – working much faster than relational databases to find the indicators of fraud while linking to external databases such as Threat Metrix and RSA Security. And because it works faster, it is able to go deeper into the data in a shorter amount of time, increasing accuracy and reducing customer frustration associated with false positives.

- **First-party fraud** – employing deep-link analysis of user behaviour and external databases such as the FICO Falcon Intelligence Network to identify at-risk accounts more quickly.
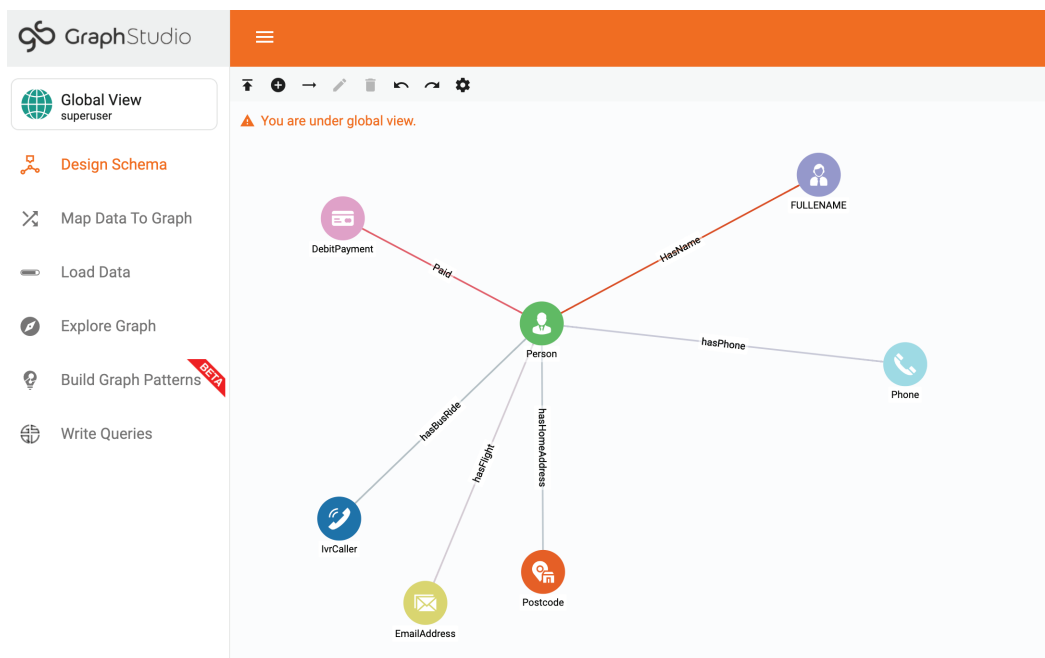
> "NewDay works with millions of customers, each with billions of rows of valuable account data that can now be used to disrupt criminals. Traditional relational databases could not scale to analyze the volume of interconnected data to find potential connections to organized crime. TigerGraph has allowed our fraud prevention team to fully utilize data science to truly take the lead in the fraud prevention space."

- Jamie Burns, Senior Fraud Strategy and Analytics Manager, NewDay

> "We had looked into other graph analytics companies after we upgraded our data platforms, yet none provided the forward-looking technology, operational ease of use, training or support that TigerGraph did. In our ever-changing world with increasingly interconnected data, we needed to uplevel our technology offering. At the same time, we wanted to enable our fraud investigation team to act autonomously—without relying on developers—tuning queries in near real-time with 'train-of-thought' analysis and speed."

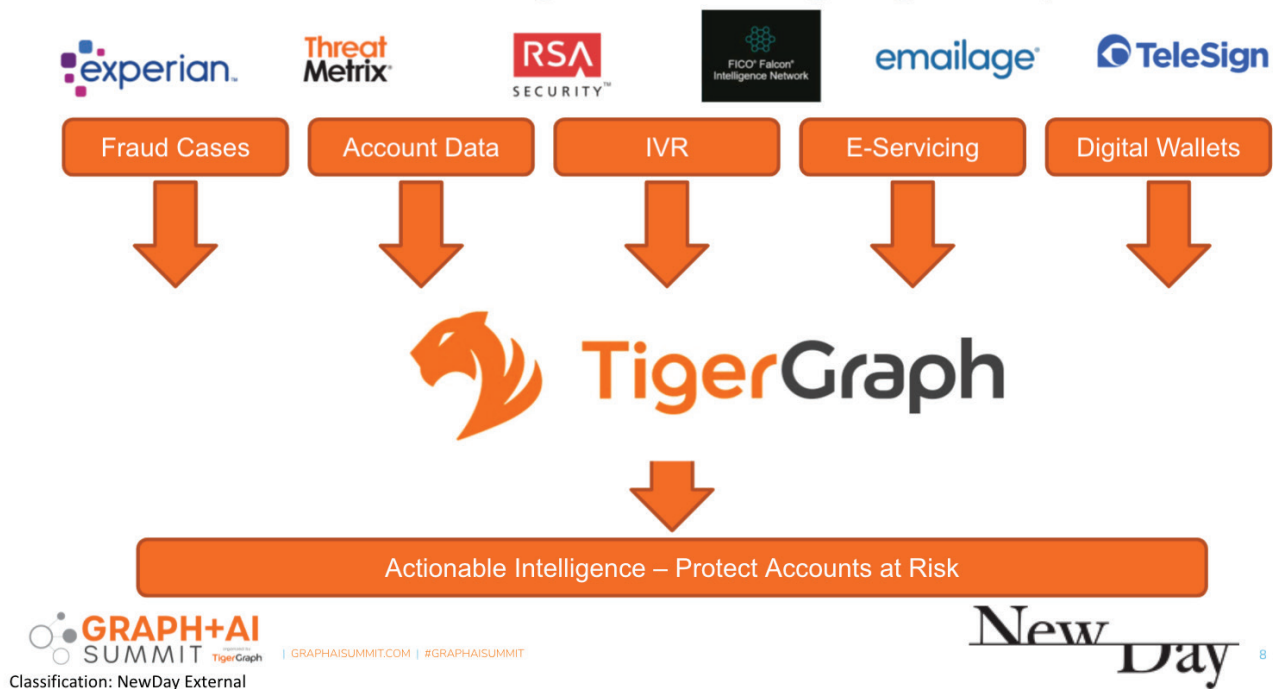- Danny Clark, Head of Fraud Prevention, NewDay

The Results

NewDay is now able to identify fraudsters by checking data against known and new fraud syndicates faster than ever before. Investigators can update the algorithms quickly and easily, allowing them to train the system as they expose fraud rings, reject fraudulent applications, identify bad transactions, minimize false positives, and achieve earlier detection of at-risk accounts.

The immediate impact of TigerGraph was a 10-15% reduction in fraud and an increase in case referrals to the police while allowing the company to responsibly approve 900,000 new customers in 2020.

And according to the head of fraud prevention, the system will only become more effective as they fine-tune the system and take advantage of TigerGraph's ability to ingest and analyze quantities of data that are simply beyond the scope of other systems.

Fraud Investigations Using TigerGraph

experian. | Threat Metrix® | RSA SECURITY™ | FICO® Falcon® Intelligence Network | emailage® | TeleSign

Fraud Cases | Account Data | IVR | E-Servicing | Digital Wallets

TigerGraph

Actionable Intelligence – Protect Accounts at Risk

GRAPH+AI SUMMIT | GRAPHAISUMMIT.COM | #GRAPHAISUMMIT

NewDay

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Classification: NewDay External

> 99
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> **"Initial rollout of TigerGraph Cloud has reduced the undetected fraud cases by 10%-15% and we are planning additional enhancements in fraud detection and rollouts in other areas of the business."**
>
> - Danny Clark, Head of Fraud Prevention, NewDay

Learn More

- Improving Fraud Detection with Graph + AI, Danny Clark, Head of Fraud Strategy, NewDay, Graph + AI Spring 2021 Keynote

- Read the solution brief on detecting financial fraud

- Join us for a hands-on workshop: "Double the Performance of Your Fraud Detection System with Graph and Machine Learning"

- Sign up for TigerGraph Cloud

Some of Our Customers

INTUIT **JAGUAR LAND ROVER**

Pagantis **opencorporates**

New Day **IPPEN DIGITAL PLATTFORM**

Kickdynamic **wish**

- Real-time fraud detection at 7 out of the world's top 10 global banks
- Care path recommendations for 50 million patients
- Personalized offers for 300 million consumers
- Energy infrastructure optimization for 1 billion people

> **"Once we have everything built in graph, we can react to changes in real-time. Graph is at the centre of everything we do."**

Dr. Jay Yu
Distinguished Engineer and Architect,
Intuit

> **"With TigerGraph we can join sources of data together and make connections within the data that previously we couldn't. We can now answer questions that, for the last 20 years, we didn't think were possible to ask."**

Harry Powell, Director of Data & Analytics,
Jaguar Land Rover

About TigerGraph
TigerGraph is the only scalable graph database for the enterprise. TigerGraph's proven technology connects data silos for deeper, wider and operational analytics at scale. Seven out of the top ten global banks use TigerGraph for real-time fraud detection. Over 50 million patients receive care path recommendations to assist them on their wellness journey. 300 million consumers receive personalized offers with recommendation engines powered by TigerGraph. The energy infrastructure for 1 billion people is optimized by TigerGraph for reducing power outages. TigerGraph's proven technology supports applications such as fraud detection, customer 360, MDM, IoT, AI, and machine learning.

For more information visit **www.tigergraph.com** and follow us at: Facebook Twitter LinkedIn

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Get Started for Free at Tigergraph.com/Cloud

TigerGraph Cloud graph database as a service is built for agile teams who'd rather be building innovative applications to deliver new insights than managing databases.

Cloud Starter Kits

TigerGraph Cloud Starter Kits are built with sample graph data schema, dataset, and queries focused on specific use cases such as fraud detection, recommendation engine, supply chain analysis and/ or a specific industry such as healthcare, pharmaceutical or financial services.

STARTER KIT	OVERVIEW
COVID-19 ANALYSIS	Detect hubs of infection and track the movements of potential spreaders
CUSTOMER 360-ATTRIBUTION & ENGAGEMENT GRAPH	Create a real-time 360 view of the customer journey for attribution and engagement insights.
CYBERSECURITY THREAT DETECTION-IT	Block cybersecurity threats by detecting interconnected events, devices and people
ENTERPRISE KNOWLEDGE GRAPH (CORPORATE DATA)	Analysis of corporate data including investors and key stakeholders.
ENTERPRISE KNOWLEDGE GRAPH (CRUNCHBASE)	Knowledge graph examples featuring crunchbase data with startups, founders and companies.
ENTITY RESOLUTION (MDM)	Identify, link and merge entities such as customers with analysis of attributes and relationships.
FRAUD & MONEY LAUNDERING DETECTION	Multiple types of fraud and money laundering patterns.
GSQL 101	Introduction to TigerGraphs powerful graph query language.
HEALTHCARE GRAPH (DRUG INTERACTION/ FAERS)	Healthcare example focused on public (FAERS) and private data for pharmaceutical drugs.
HEALTHCARE–REFERRAL NETWORKS, HUB (PAGERANK) & COMMUNITY DETECTION	Analyze member claims to establish referral networks, identify most influential prescriber's and discover the connected prescriber communities.
MACHINE LEARNING & REAL-TIME FRAUD DETECTION	Mobile industry example for detecting fraud in real-time and generating graph-based features for training the machine learning solution.
NETWORK & IT RESOURCE OPTIMIZATION	Network and IT resource graph for modeling and analyzing the impact of the hardware outage on workloads.
RECOMMENDATION ENGINE (MOVIE RECOMMENDATION)	Graph-based movie recommendation engine built with public data.
SOCIAL NETWORK ANALYSIS	Social network example for understanding and analyzing relationships.
SUPPLY CHAIN ANALYSIS	Example covering inventory and impact analysis.