# Churn Prediction for a global wireless communications service provider using SageMaker Machine Learning model

## The Customer Need

Virgin Mobile aims to predict churn for their prepaid customers based on their activity patterns and high-level profile information. For prepaid customers, business was more interested in predicting a brief period of inactivity rather than a user not returning to their service or products. Instead of a traditional churn prediction, we were looking at predicting a temporary soft churn where the customer is likely to return to the services and products but is inactive for a long enough time to impact business.

## Cloudwick Solution on AWS

Cloudwick used SageMaker to implement a churn prediction model. We deployed the model as a REST end point on SageMaker and a client application using it as a simple API.

The first step in defining the problem is to define an inactivity period as a soft-churn indicator. We then convert data from a granular level to summary data points used in a supervised ML problem. All data points would be a combination of recent activity and the user profile with a label derived from the gap between a current data point and the next future activity.

In terms of the technology stack, Cloudwick trained the models using AWS SageMaker as our development platform and we relied on using EMR for all the pre-processing ETL.

## About Virgin Mobile

**Virgin Mobile is a leading and global wireless communications brand used by eight independent brand-licensees worldwide. Each Virgin Mobile branded entity acts independently from the others, thus the handsets, service plans and network radio interfaces vary from country to country.**

## About Cloudwick

Cloudwick is the leading provider of enterprise business and technology modernization services and solutions to the Global 1000 and helps enterprises gain competitive advantage from open source, data lake, big data, cloud and advanced analytics. Cloudwick is an advanced AWS partner with Big data and machine learning competency.