

## **Final Project**

### Event hub live stream & PowerBI Analysis

#### **Problem Statement:**

Data is being generated in every form today, there are several tools available in the market to analyze the data but Microsoft PowerBI provides interface with Azure and provide ability to analyze the live stream data. In power BI you can almost connect to all the data sources like relational databases, live Facebook feed, tweeter feed, text/CSV and as well as data created by event hubs and analyze them in one central places in real time.

We will present a use case of real-time fraud detection based on phone-call data and. We will Bring streaming events into an instance of Azure Event Hubs and then send the real-time data to power BI engine to examine the data in real time.

In this example, we will consider fraudulent usage to be calls that originate from the same user but in different locations within 5 seconds of one another. For example, the same user can't legitimately make a call from the US and Australia at the same time.

#### **Overview of the Technology:**

To Solve the problem, I have created an even hub in Azure portal that will read the data in real time by using a client application that will generate a phone-call data including fraud calls.

Some of the records that the client app produces look like fraudulent calls. That data will then send to PowerBI engine to analyze in real time to detect the fraudulent calls.

#### **High Level Steps:**

- 1) Download the client program to generate the sample data
- 2) Configure even hubs in Azure portal
- 3) Create a Stream Analytics job to manage streaming data
- 4) Run a client application to generate the live telephone fraud call data
- 5) Create a query in Analytics job in Azure to transform the data ingested by event hub
- 6) Configure the output in analytic job in Azure to send the transform data to PowerBI
- 7) In Powerbi portal create a dashboard to process the output of stream analytic query

#### **Data source**

Test data generator application

<http://download.microsoft.com/download/8/B/D/8BD50991-8D54-4F59-AB83-3354B69C8A7E/TelcoGenerator.zip>

#### **Hardware used**

Windows 7 64 bit

#### **Software used:**

Azure portal (tool)

PowerBI portal (tool)

Two minute (<https://youtu.be/LD0UTGJpCoQ>) 15 minutes (<https://youtu.be/9eayxql06UA>) & GitHub Repository with all artifacts: (<https://github.com/sjoshi71/project>)