

**MICHIGAN STATE**  

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**UNIVERSITY**

# Beta Presentation

## High Frequency Ingestion System

### The Capstone Experience

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*From Students...  
...to Professionals*

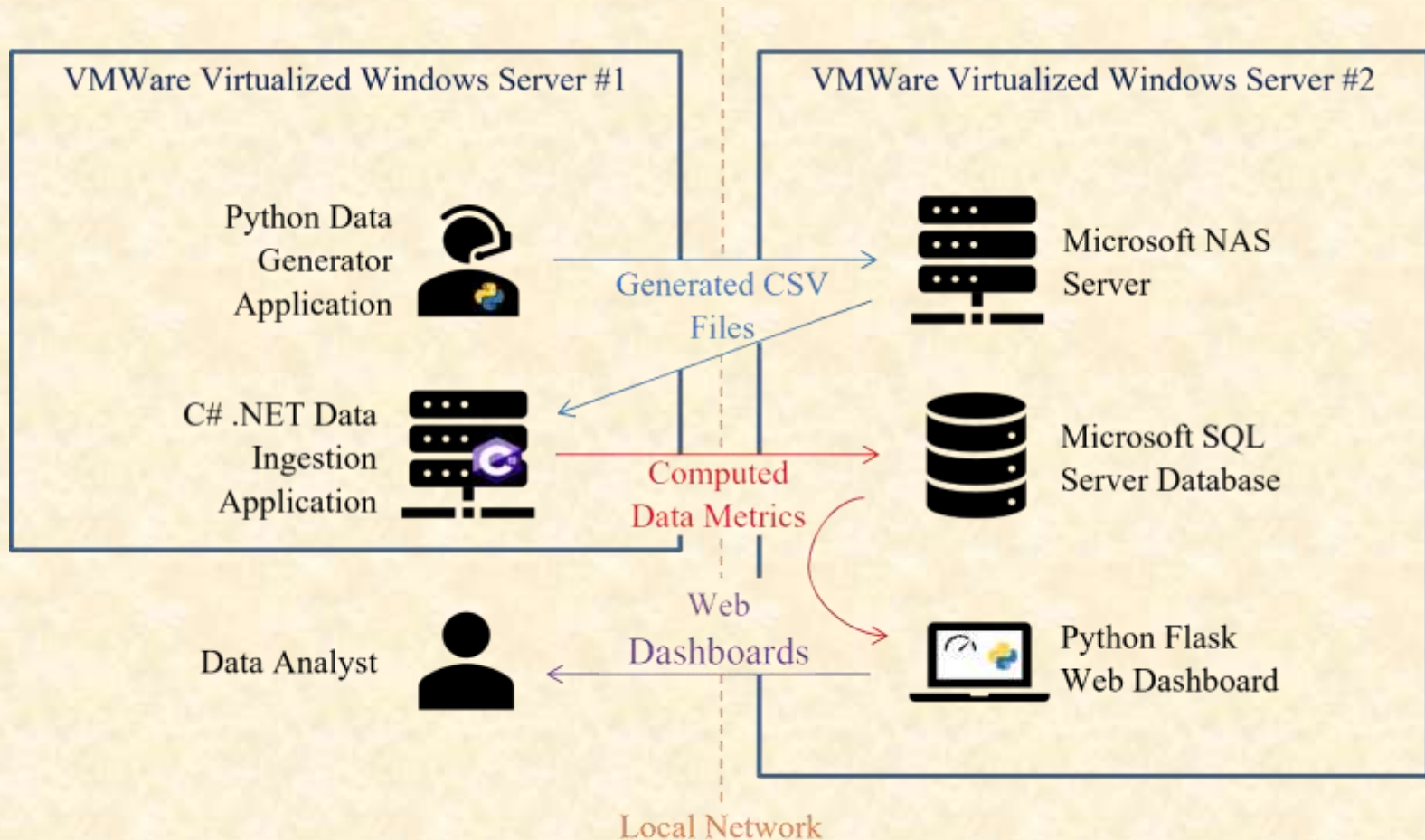
# Project Overview

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- Create a data generator to simulate the influx of OnStar representative CSV data to a central network file drive.
- Process the massive influx of files in an efficient manner.
- Display ingested data metrics on a web dashboard.
- A ranking system for OnStar representatives based upon their internet metrics over time compared to their peers.



# System Architecture



# Data Generator

```
C:\Users\admin\source\repos\team-gm\dataGeneration>python DataGenerator.py --help
```

```
usage:
```

```
python DataGenerator.py [-h | --help] [-f <path>] [-r | --rate] [-t | --thread]
```

```
Example:
```

```
python DataGenerator.py -f "C:\Users\admin\Desktop\Data" -r 1000 -t 5
```

```
C:\Users\admin\source\repos\team-gm\dataGeneration>python DataGenerator.py -f "C:\Users\admin\Desktop\Data" -r 1000 -t 5  
Generating Files...
```



# Ingestion Application

```
Command Prompt - ingestion -f "C:\Users\Kory_Gabrielson\Desktop\DataTest" -b 50
C:\Users\Kory_Gabrielson\Desktop\DataTest>ingestion --help
Usage:
  ingestion -f "<fully-qualified-folder-path>" -b <batch size>
Example:
  ingestion -f "D:\TelemetryData\DataTest" -b 50.
Press a key to continue:

C:\Users\Kory_Gabrielson\Desktop\DataTest>ingestion -f "C:\Users\Kory_Gabrielson\Desktop\DataTest" -b 50
Processing files...
```



# Web Dashboard Main Page

GM Network Telemetry

Home  
Admin

## User Data Overview

Select a region to filter by.  
Michigan

### User Data

Inspect a specific user.  
outlyingHeron3

#### Estimated Bandwidth

MB/s

120  
100  
80  
60  
40

10:50 10:52 10:54  
Mar 25, 2022

— outlyingHeron3 Bandwidth  
— outlyingHeron3 RTT

#### Round Trip Time

Milliseconds

200  
150

10:50 10:52 10:54  
Mar 25, 2022

### User Connection Ratings

Select a user to view ratings from the last 7 days.  
outlyingPup3

	Bandwidth	RTT	Variability
outlyingPup3	E	B	A

### Users That May Require Attention

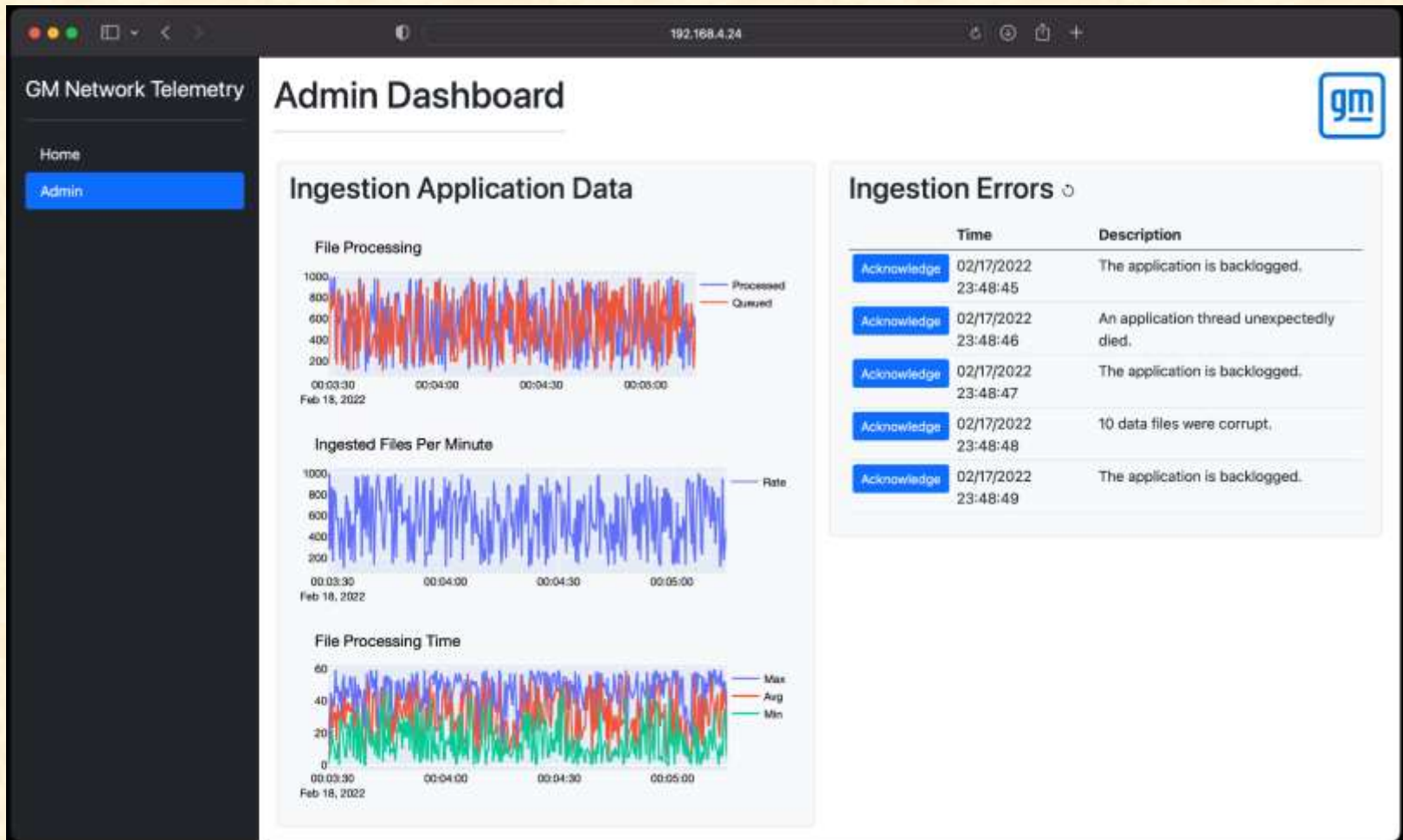
Users with the lowest connection rating over the last 7 days.

User	Overall connection rating (0-100)
sincereDotterel7	35.00
pleasedLard8	35.00
emptyMallard3	55.98
worldlyDotterel4	58.47
debonairJaguar6	58.77
cockyToucan7	59.00
ecstaticRuffs0	59.35
exactingCurlew5	59.50





# Web Dashboard Admin Page



# What's left to do?

- Improve this application based on GM's feedback.
  - GM has successfully run our application on their server, we will keep improving based on their feedback.
- Write documentation on product usage.





# Questions?

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