1. **Introduction:**

To fetch the delay statistics for the packets transmitted from local server to central server and back using UDP protocol.

1. **Scope:** Applicable for the Twinkle Door Access System
2. **The folder where the program resides and how to execute them from the start:**

In Central Server (Raspberry Pi, IP addr:10.32.26.70)

**Location:** /home/pi/Desktop/Delay\_Statistics/UDP/UDP\_Delay\_Stats\_Integrate\_DB /

**Name of the file:** UDP\_Delay\_Stats\_Data\_Store\_DB\_v2.py

How to execute the program in Central Server:

* Open the terminal.
* Change the directory by typing:

“cd /home/pi/Desktop/Delay\_Statistics/UDP/UDP\_Delay\_Stats\_Integrate\_DB/”

* To run the program type:

“python3 UDP\_Delay\_Stats\_Data\_Store\_DB\_v2.py”

In Local Server (Raspberry Pi, IP addr: 10.32.26.20):

**Location:** /home/pi/Desktop/Delay\_Statistics/UDP/UDP\_Delay\_Stats\_Integrate\_DB/Multiuser

**Name of the file:** UDP\_Delay\_Stats\_Data\_Store\_DB\_v3.py

**Dependent file:** UDP\_Delay\_Stats\_Data\_Connct\_Cent\_Serv.py

How to execute the program in Local Server:

* Open the terminal.
* Change the directory by typing:

“cd /home/pi/Desktop/Delay\_Statistics/UDP/UDP\_Delay\_Stats\_Integrate\_DB/Multiuser”

* To run the local server program type:

“python3 UDP\_Delay\_Stats\_Data\_Store\_DB\_v3.py”

* To run the program for synthetic testing:

“python3 UDP\_client\_test.py”

Note: This file is solely for testing purpose. It generates the Twinklet packets and sends it to Local Server

1. **Guide to fetch the delay statistics file in Central Server:** The program is a self-written script.

In Central Server (Raspberry Pi, IP addr:10.32.26.70)

**Location:**/home/pi/Desktop/Delay\_Statistics/UDP/UDP\_Delay\_Stats\_Integrate\_DB/Delay\_Statistics

How to execute the program in Central Server:

* Open the terminal.
* Change the directory by typing:

“cd /home/pi/Desktop/Delay\_Statistics/UDP/UDP\_Delay\_Stats\_Integrate\_DB/Delay\_Statistics”

* To run the script file:

“./get\_db.sh”

**Note: This is a script to fetch the database file storing the delay statistics in Local Server**

* On fetching the database file, execute:

“python3 Excel\_sheet.py”

This file will log the delay parameters and statistics in an Excel sheet.

1. **Details about any scripts or 3rd party programs:**

No third-party program is implemented here

1. **Platforms required for running the programs (PC/RPi ...):**

Raspberry Pi, Windows with Visual Studio, PyCharm, Linux Systems.