# **overview of the process**

# Connectivity Team TA & QA needs to setup a Congestion Environment for TP99 and TP95 congested Wi-Fi tests. In order to create a congestion setup, it requires 4 Linux systems. The congestion run has to be initiated on 6 devices which is connected to the 4 Linux systems (2 devices per system). To initiate congestion, manually have to run the UDP commands on all 6 devices separately on each system.

# **what is the issue?**

Congestion Setup and initiation enhancements

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*Process Name: FOS-Connectivity IOT*

*Start date: Sept 18*

*End date: Oct 01*

*Metric(s) addressed: AHT*

Impact

|  |  |  |
| --- | --- | --- |
| *Metric* | *Before* | *After* |
| AHT |  |  |

benefit:

*USD 7069.00*

*\*\*Attach the excel below to show benefit calculation\*\**



# There are two Major issues,

1. TA & QA needs to setup 4 Linux systems every time as a basic requirement for congestion setup and setting up each system takes much time.
2. After the setup, TA & QA needs run UDP throughput on each device separately also takes much time.

# **ROOT CAUSE (why the issue occurred)**

1. To create a congestion environment TA or QA has to generate UDP traffic on non-overlapping Wi-Fi channels CH1, CH6 & CH11 frequencies. Thus 3 different Linux systems with 3 Wi-Fi routers in CH1, CH6 & CH11 respectively has to be setup. And 1 separate Linux system for DUT testing.
2. To generate the UDP traffic on each device connected to congestion setup Linux systems. The iperf throughput run should be initiated separately on each device one by one in total of 6 devices (2 devices per Linux system).

# **solution implemented**

Two solutions introduced as below,

1. Setup modifications – Instead of 4 Linux systems, the setup can be combined in a single Linux system by adding different networks IP subnet by Static network configuration using USB to Ethernet Dongle. By this method all the congestion setup can be connected in a single Linux system. This method reduces cost by eliminating 3 Linux systems and saves time in setup on single system.
2. Congestion run automated script – Generating UDP traffic on all 6 devices automatically through the script instead of manually on each device. This saves much time and the manual effort.

# **Saving realization**

# Resources Save (PC Systems) – **$1123** of save in PC systems in new Congestion method.

Time save - **$5946** of save in time by using the automated congestion script to initiate congestion.

**Total of USD 7069.00** is saved with the new setup method and the script to automate congestion, which can be used for all other setups with cost cutting and the time saved can be utilized in Ah-hoc tasks, Exploratory test and Acquire additional test plans.