Congestion Setup and Automation Script (Time & Motion Study)

**Cost Save Previous Method Setup Vs New Method of setup:**

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| --- | --- | --- |
| Infrastructure Resources | **Ubuntu systems** | **Cost** |
| **No. of Systems Required for Previous Congestion Setup** | 3 | 1684.26 |
| **No. of Systems Required in New Congestion Setup** | 1 | 561.42 |
| **Total save** | 2 | *1122.84* |

**No. of Congestion Test Cases done by Conn Team per 2 weeks data Approx:**

Coex Team – 60 Congestion Test Cases

WiFi Team – 15 Congestion Test Cases

Total in CONN Team – 75 Congestion Test Cases

**Manual method - Setup & Manually initiating Congestion - Time and Motion Study**

**Infrastructure Resource:**

No. of Systems required – 3

No. of Routers required – 3

No. of devices required – 3

No. of USB Cables required – 3

**Time Resource:**

Approx. Time to setup 1 host systems – 15 min (Includes system setup, router configuration and Device setup)

Approx. Time to initiate 1 device traffic – 10 Min (Includes setting iperf tool and starting UDP traffic)

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| --- | --- | --- | --- |
| Iterations | **Time Taken to Setup Systems**  **(3 Systems)** | **Time Taken to initiate Congestion**  **(3 Devices)** | ***Total Time Taken*** |
| 1 | 67 Minute 50 Seconds | 28 Minutes 30 Seconds | *96 Minutes 20 Seconds* |
| 2 | 61 Minute 10 Seconds | 27 Minutes 15 Seconds | *88 Minutes 25 Seconds* |
| 3 | 58 Minute 40 Seconds | 33 Minutes 20 Seconds | *92 Minutes 00 Seconds* |
| 4 | 55 Minute 50 Seconds | 29 Minutes 50 Seconds | *85 Minutes 40 Seconds* |
| 5 | 62 Minute 40 Seconds | 31 Minutes 50 Seconds | *94 Minutes 30 Seconds* |
| **Average** | 61 Minute 14 Seconds | 30 Minute 09 Seconds | 91Minute 23 Seconds |

**New Setup and Script Method – Setup & Automated Congestion Script- Time and Motion Study**

**Infrastructure Resource:**

No. of Systems required – 1

No. of Routers required – 3

No. of devices required – 3

No. of USB Cables required – 3

No. of USB to Ethernet ADP – 3

**Time Resource:**

Approx. Time to setup 1 host system – 15 min (Includes system setup, all 3 router configuration)

Approx. Time to initiate UDP traffic on all devices using script – 30 sec (Automatically setup 3 devices and initiate UDP traffic on all devices simultaneously)

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| --- | --- | --- | --- |
| Iterations | **Time Taken to Setup Systems**  **(1 System)** | **Time Taken to initiate Congestion**  **(3 Devices)** | ***Total Time Taken*** |
| 1 | 15 Minute 10 Seconds | 30 Seconds | 15 Minute 40 Seconds |
| 2 | 15 Minute 50 Seconds | 30 Seconds | 16 Minute 20 Seconds |
| 3 | 17 Minute 20 Seconds | 30 Seconds | 17 Minute 50 Seconds |
| 4 | 15 Minute 30 Seconds | 30 Seconds | 16 Minute 00 Seconds |
| 5 | 12 Minute 10 Seconds | 30 Seconds | 12 Minute 40 Seconds |
| **Average** | 15 Minute 12 Seconds | 30 Seconds | 15 Minute 42 Seconds |

**Total Execution Time - Manual Method Vs. Script**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Previous Setup & Manual Method** | **New Method & Script** | ***Time Saved*** |
| 1 | *96 Minutes 20 Seconds* | 15 Minute 40 Seconds | 80 Minute 40 Seconds |
| 2 | *88 Minutes 25 Seconds* | 16 Minute 20 Seconds | 72 Minute 05 Seconds |
| 3 | *92 Minutes 00 Seconds* | 17 Minute 50 Seconds | 74 Minute 10 Seconds |
| 4 | *85 Minutes 40 Seconds* | 16 Minute 00 Seconds | 69 Minute 40 Seconds |
| 5 | *94 Minutes 30 Seconds* | 12 Minute 40 Seconds | 81 Minute 50 Seconds |
| **Average** | 91Minute 23 Seconds | 15 Minute 42 Seconds | 75 Minute 41 Seconds |