

## Scope

Two destinations (one per group). Each group has 5 traces: **T1–T5**.  
This report is pre-filled with sample rows from the provided outputs for **G1-T1** and **G2-T1** only; the remaining traces are left as placeholders to be filled after running the analyzer on all PCAPs.

## Datasets

- **Group 1** destination: 8.8.8.8 — traces: G1-T1...G1-T5 (T1 filled below)
- **Group 2** destination: 8.8.8.8 — traces: G2-T1...G2-T5 (T1 filled below)

## 1) Probes per TTL (q)

Definition: number of outbound probes per TTL within a trace.  
Fill exact counts for T1–T5 after processing all PCAPs.

### Group 1 — q by TTL

TTL	G1-T1	G1-T2	G1-T3	G1-T4	G1-T5
1					
2					
...					

### Group 2 — q by TTL

TTL	G2-T1	G2-T2	G2-T3	G2-T4	G2-T5
1					
2					
...					

## 2) Path consistency (routers by TTL)

List routers seen at each TTL. If multiple routers appear at the same TTL in a trace, list all.

### Group 1 — G1-T1 (example filled)

TTL	Router IPs at this hop
1	142.104.68.167
2	142.104.68.1
3	192.168.9.5
4	192.168.10.1
5	192.168.8.6

TTL	Router IPs at this hop
6	142.104.252.37
7	142.104.252.246
8	207.23.244.242
9	206.12.3.17
10	199.212.24.64
11	206.81.80.17
12	74.125.37.91; 72.14.237.123
13	209.85.250.121; 209.85.249.155; 209.85.249.153

**G1 overall consistency:** *To be concluded after T2-T5 are added.*

## Group 2 — G2-T1 (example filled)

TTL	Router IPs at this hop
1	192.168.0.1
2	24.108.0.1
3	64.59.161.197
4	66.163.72.26
5	66.163.68.18
6	72.14.221.102
7	108.170.245.113
8	209.85.249.249

**G2 overall consistency:** *To be concluded after T2-T5 are added.*

Common causes of inconsistencies: ECMP load balancing, ICMP rate limiting, transient routing changes, anycast.

## 3) If inconsistent → explain; if consistent → per-hop RTT and bottleneck

### Group 1 — G1-T1 per-hop avg RTT (ms) (example)

TTL	Avg RTT
1	11.37
2	16.85

TTL	Avg RTT
3	16.01
4	17.56
5	18.36
6	11.86
7	13.51
8	14.10
9	18.23
10	16.91
11	19.43
12	13.72
13	19.62
14	18.99
15	19.90
16	21.45
17	23.18
18	9.18

*Bottleneck (T1 example): TTL 13 (209.85.250.121), first persistent step-up ( $\Delta \approx 5.9$  ms).*

*Fill the same table for T2–T5 and compute across-trace mean/s.d. to confirm.*

## Group 2 — G2-T1 per-hop avg RTT (ms) (example)

TTL	Avg RTT
1	3.33
2	15.81
3	18.87
4	22.84
5	26.50
6	24.26
7	18.41
8	22.97
9	18.10

*Bottleneck (T1 example):* TTL 2 (24.108.0.1), first large jump ( $\Delta \approx 12.48$  ms).

## 4) Destination RTT

Trace	Avg RTT to destination (ms)	s.d. (ms)
G1-T1	19.980	3.501
G1-T2	—	—
G1-T3	—	—
G1-T4	—	—
G1-T5	—	—
G2-T1	18.100	0.763
G2-T2	—	—
G2-T3	—	—
G2-T4	—	—
G2-T5	—	—

## 5) Notes

Numbers are copied from the analyzer outputs (A3 R1). Complete the tables by running all PCAPs (e.g., group1-trace2...5, group2-trace2...5, plus any Windows ICMP captures if required).