

2020

H1 Trends Report

 coreero

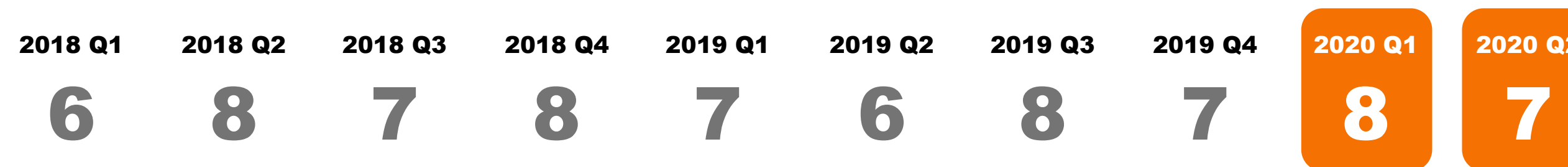


Average # of DDoS Attacks per Customer

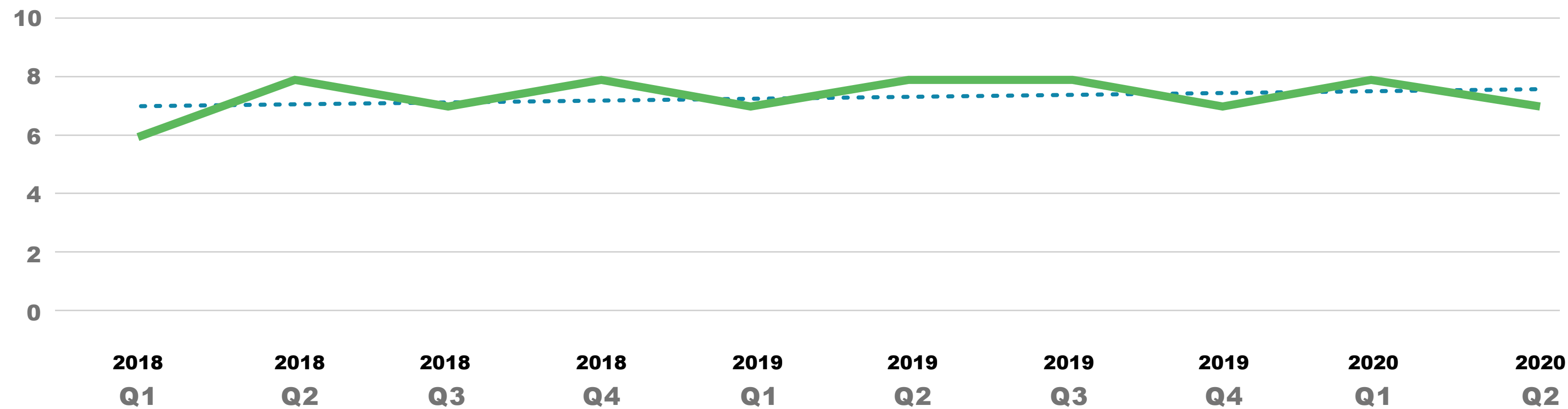
KEY TREND #1

Attack frequency against our provider customers is high, but has remained steady over the past 2 years.

Average Customer is Attacked 8 Times a Day



Average Daily Attacks Per Customer



Average Size of DDoS Attacks (Mbps)

KEY TREND #2

- Smaller attacks, less than 5Gbps, continue to dominate in 2020
- Larger attacks, in the 10's to 100's of Gbps range, have increased by 50% in 2020

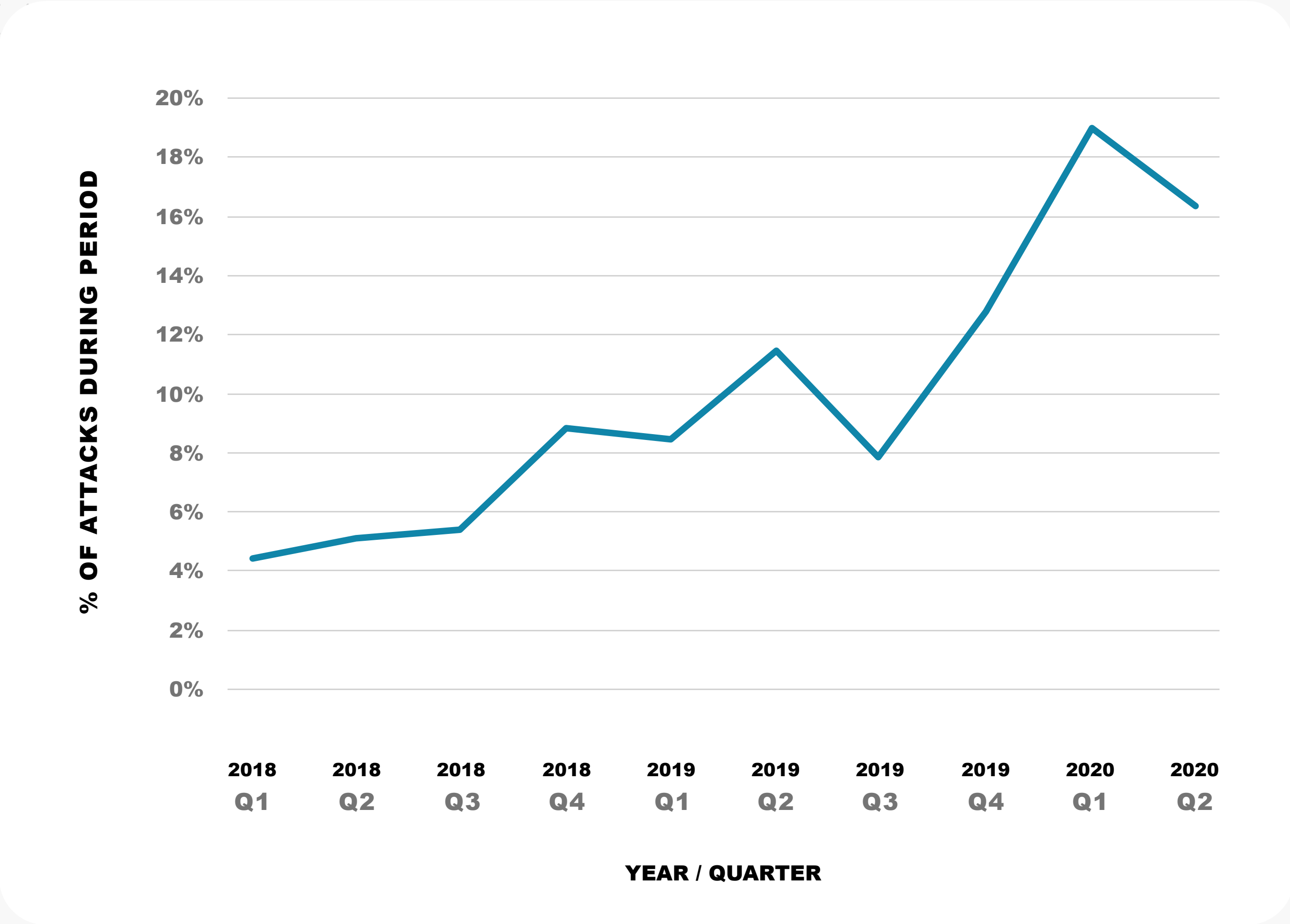
Average Size of DDoS Attacks (Mbps)

SIZE	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2
< 1G	81%	85%	83%	80%	79%	71%	82%	76%	78%	77%
1G - 5G	13%	10%	14%	15%	18%	25%	14%	19%	17%	18%
5G-10G	4%	3%	2%	3%	2%	2%	2%	3%	3%	3%
>10G	2%	2%	1%	2%	1%	2%	1%	2%	2%	3%

Large Attacks (>10Gb) Trend over 2 years

The proportion of attacks over 10Gbps is experiencing significant increase in 2020.

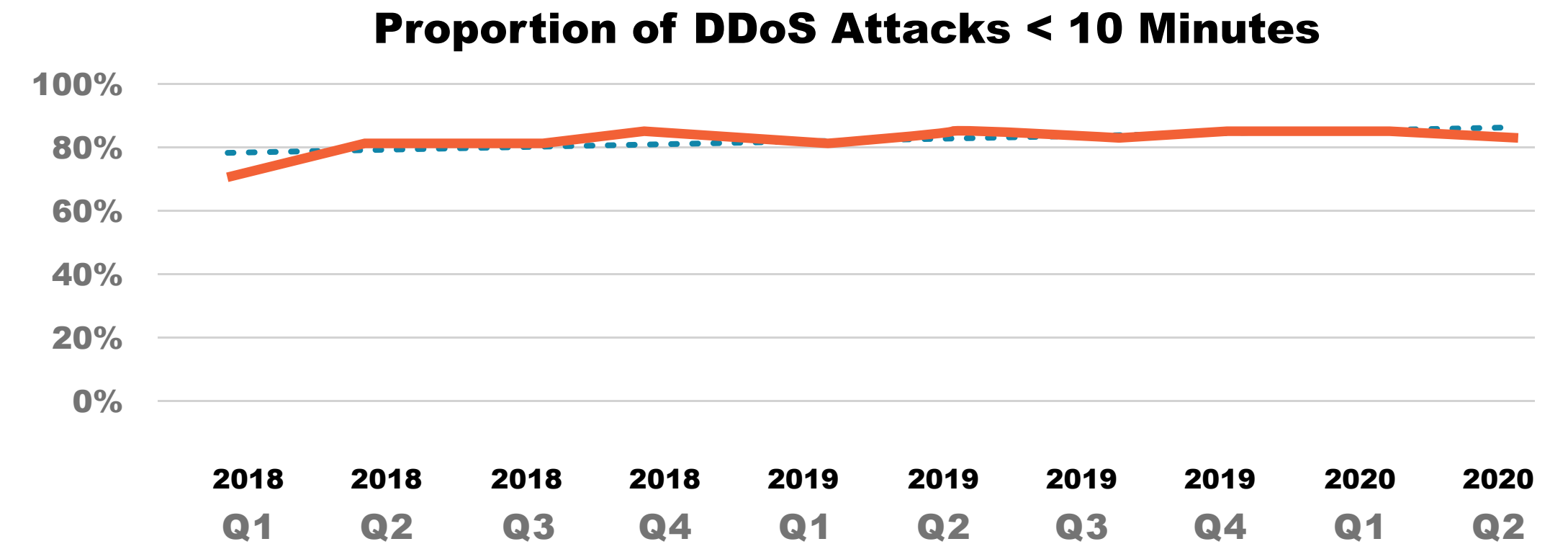
YEAR / QT	Proportion of Attacks
2018 Q1	4.52%
2018 Q2	5.11%
2018 Q3	5.44%
2018 Q4	8.86%
2019 Q1	8.49%
2019 Q2	11.54%
2019 Q3	7.70%
2019 Q4	13.07%
2020 Q1	18.98%
2020 Q2	16.30%



Average Duration of DDoS Attacks

KEY TREND #3

- There has been a significant shift of attack durations from <5 min to 6-10 minutes during 2020 Q2.
- Overall, around 85% of observed DDoS attacks have been consistently less than 10 minutes for the past 2 years



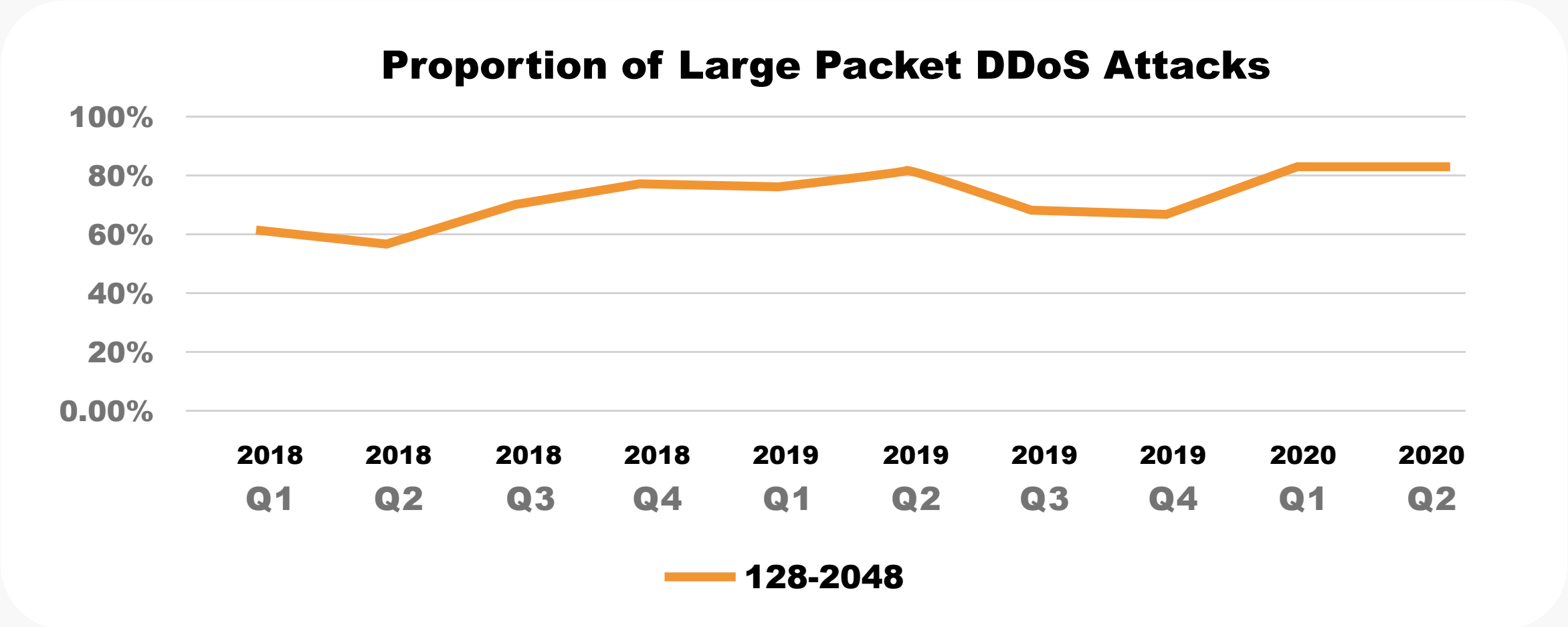
Duration of DDoS Attacks

MINUTES	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2
0-5	57%	69%	62%	71%	68%	73%	66%	68%	67%	58%
6-10	15%	13%	20%	14%	16%	13%	18%	18%	18%	26%
11-20	12%	7%	8%	6%	7%	6%	7%	6%	6%	7%
21-30	5%	3%	3%	3%	3%	3%	3%	2%	2%	2%
31-60	6%	4%	4%	3%	3%	3%	4%	3%	3%	3%
>60	5%	4%	3%	3%	3%	2%	3%	4%	4%	4%

DDoS Attack Packet Sizes

KEY TREND #4

- During 2020 H1, we observed a return from smaller (<127 bytes) back to larger attack packet sizes (>128 bytes).



DDoS Attack Packet Sizes

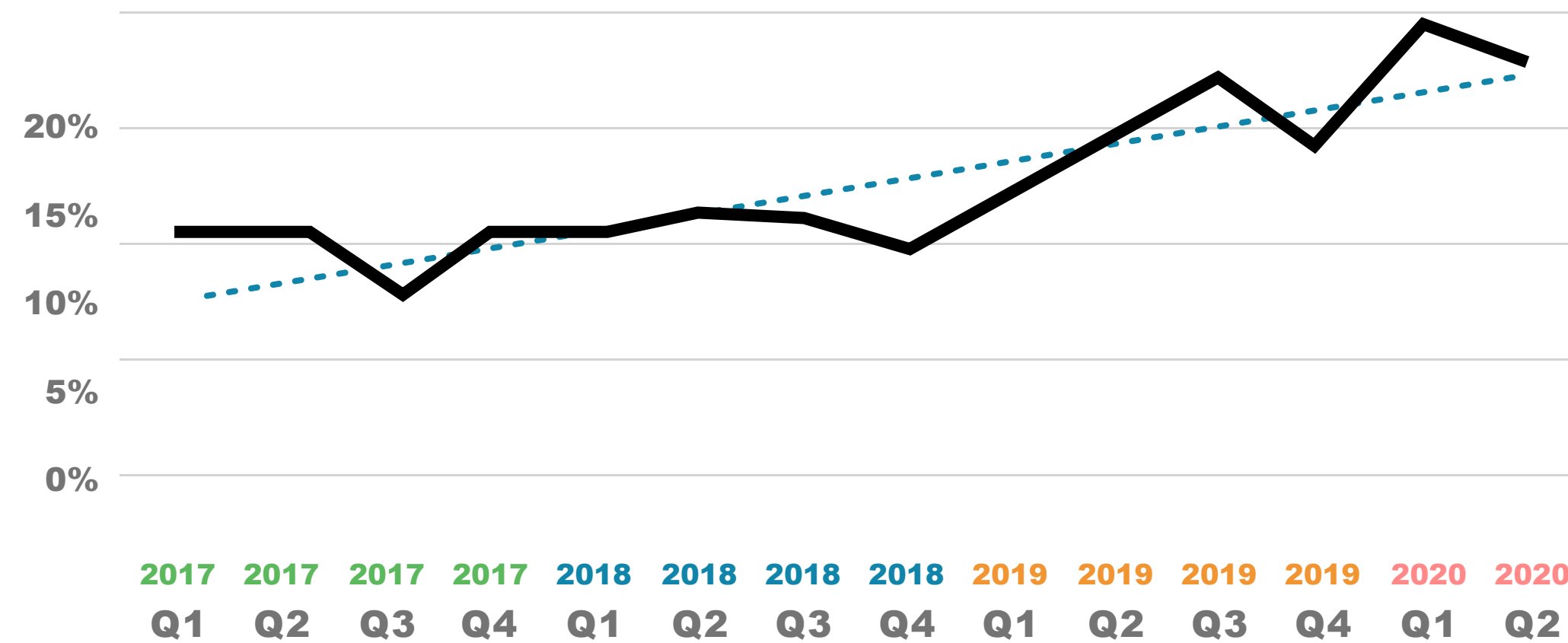
BYTES	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2
0-63	14%	14%	13%	10%	10%	9%	5%	14%	6%	5%
64-127	25%	29%	17%	13%	13%	8%	27%	18%	11%	11%
128-255	5%	7%	7%	7%	4%	6%	5%	6%	8%	4%
256-511	12%	12%	13%	11%	13%	10%	4%	7%	5%	5%
512-1023	7%	6%	6%	5%	8%	6%	9%	8%	15%	12%
1024-2048	37%	32%	45%	54%	52%	60%	51%	46%	55%	63%
0-127	38%	43%	30%	22%	23%	17%	31%	33%	17%	16%
128-2048	62%	57%	71%	78%	77%	82%	69%	67%	83%	84%

DDoS Attack Vectors

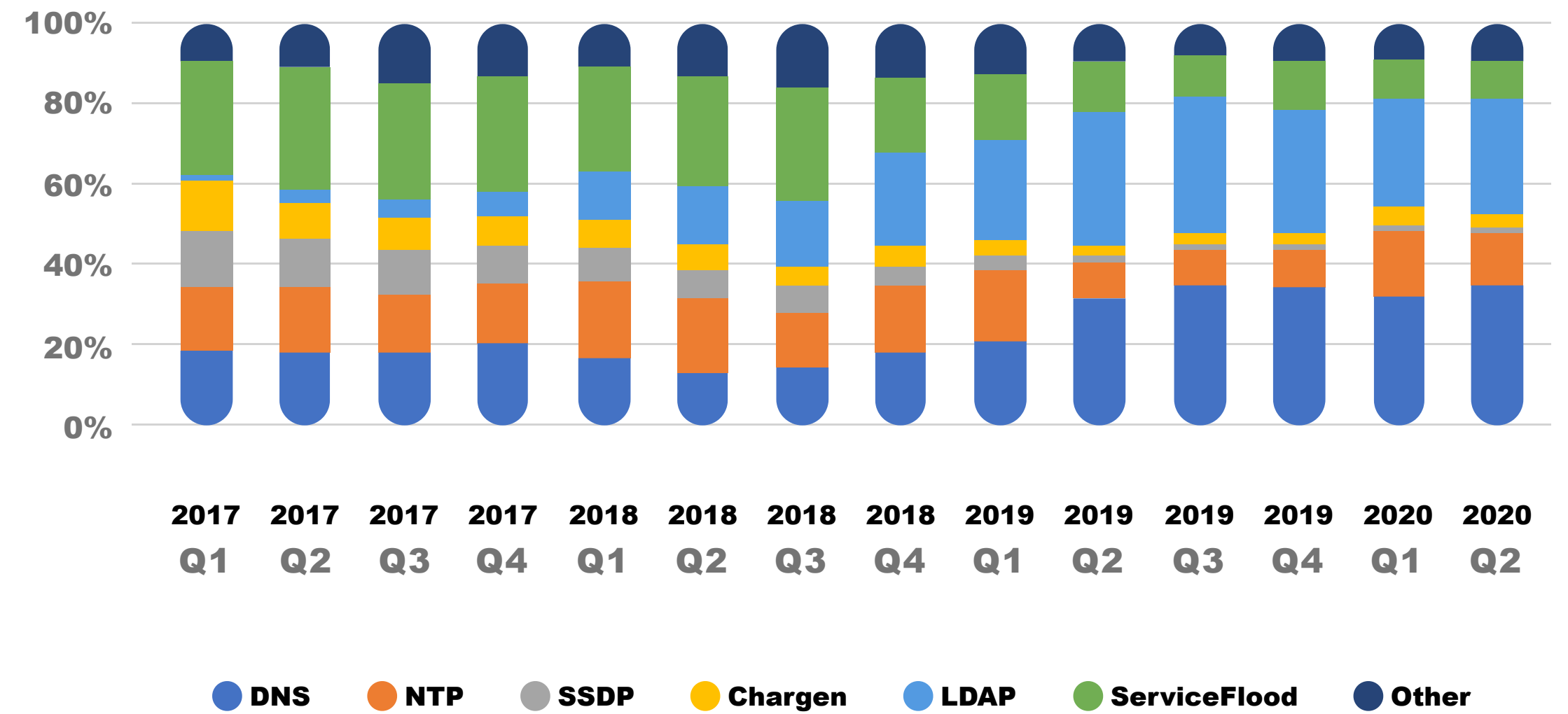
KEY INSIGHT 1: TOP 5 VECTORS

- The increasing trend for multiple vectors in a single DDoS attack continues into 2020
- DNS & LDAP-over-UDP continue to dominate as the most popular DDoS attack vectors

Proportion of DDoS Attacks that are Multivector



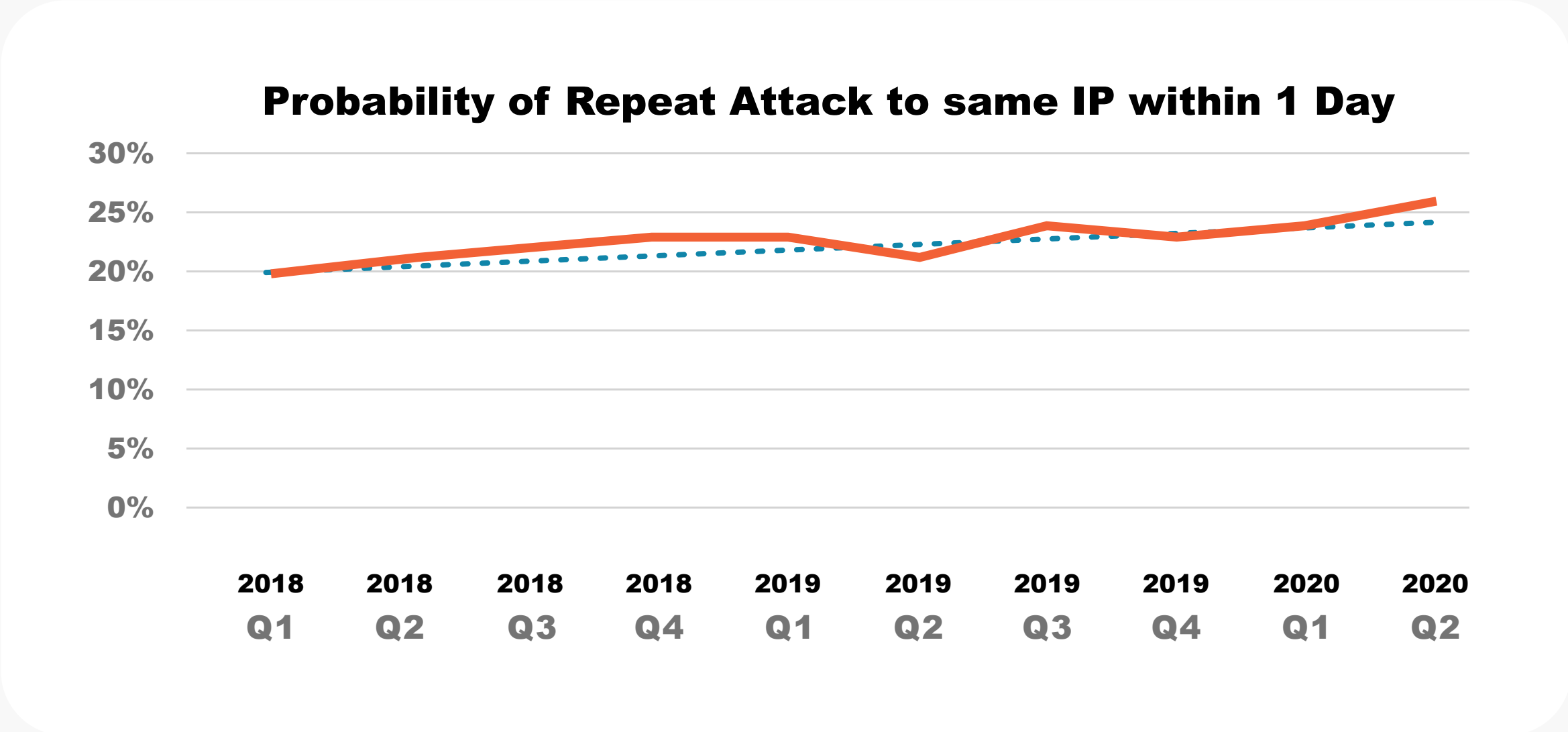
Proportion of Vectors used for DDoS Attacks



DDoS Repeat Attacks

KEY INSIGHT 2: PROBABILITY OF REPEAT ATTACK

- The trend continues that there is around a 1 in 4 chance of being attacked again within 24 hours.
- The chances of being attacked again within 90 days has increased by 16% in 2020.



DDoS Repeat Attack Probability

SIZE	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2
<1	20%	21%	22%	23%	23%	21%	24%	23%	24%	26%
2-7	7%	7%	7%	6%	6%	6%	5%	5%	7%	7%
8-30	6%	6%	5%	5%	5%	5%	5%	5%	5%	7%
31-90	3%	3%	2%	2%	2%	2%	2%	3%	3%	3%
Total for repeat <90	36%	37%	36%	36%	36%	34%	36%	36%	40%	43%

Summary

Number of attacks per Provider is significant but continues at same rate

Proportion of attacks 10 minutes or less continues at similarly high rate

Increase in larger packet size attacks coincides with a shift to higher volume attacks

Multivector attacks continue to grow in popularity and the number of vectors being used

Same victim attacks within 24 hours continues to grow

84%

Attacks 10 Minutes or Less

8

Attacks Per Customer Per Day

95%

Attacks 5Gbps or Less

