# TECHNICAL NOTE
Bursting - 95% Rule

In this technical document we provide an explanation of how our Bursting of our DIA/ IP Transit and Ethernet Transport services are calculated.
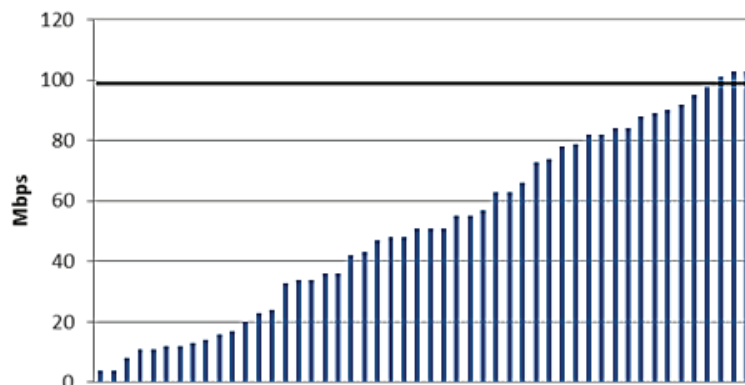
We take samples every 5 minutes of the in and out octets usage amounts on the circuit. Over a month, we collect at least 17,280 total samples. We take so many because usage can vary dramatically from moment to moment and the large number of samples allows us to smooth the peaks and valleys.

Usage Samples
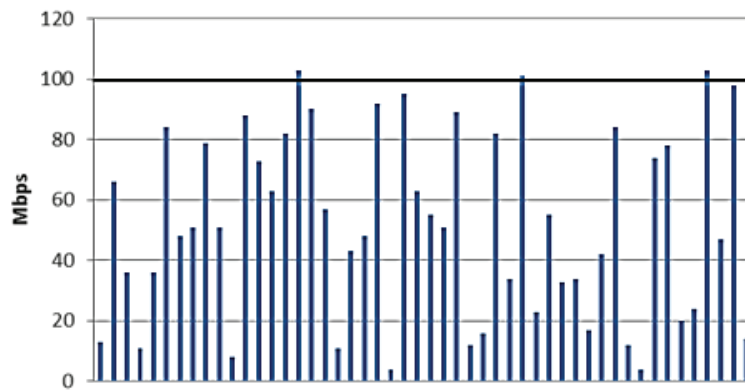
We take those samples and sort them by size. In the example below of a customer with a 100Mb commitment, you see that the largest bursts exceed the threshold. These are the samples that potential to generate usage charges. This is where the 95th percentile calculation kicks in.

Usage Samples Sorted by Size

Once the samples are sorted, we take the measurement of the sample that is larger than 95% of the other samples and ignore anything larger than that. Is this example, the sample that represents the 95th percentile is usage of 101 Mbps. Even though there are bursts greater than that during the period, we use only the 95th percentile measurement as the benchmark for that month's usage.
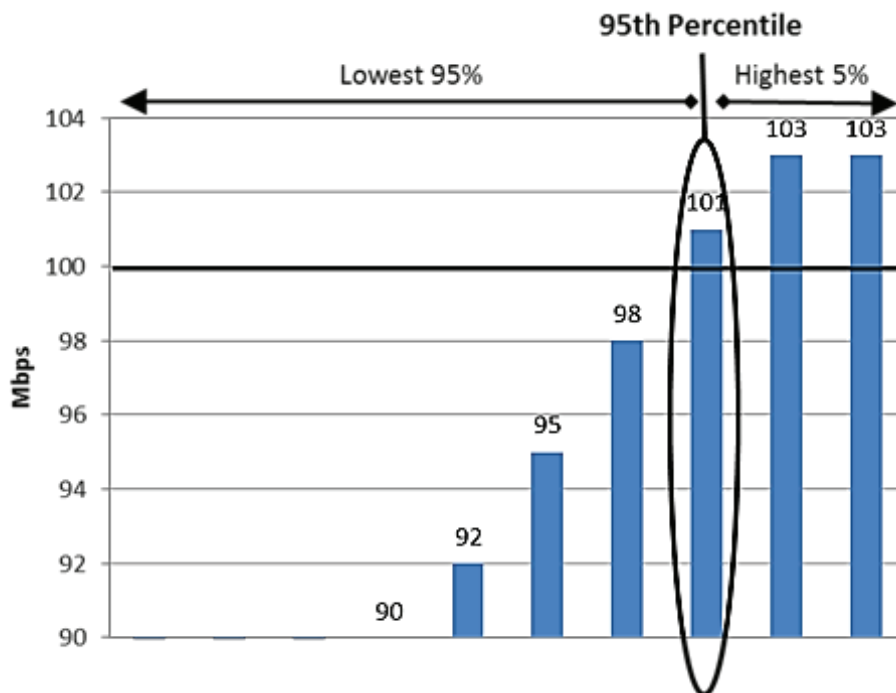
In the above example, the 95th percentile usage is 101 Mbps. Subtracting the committed bandwidth of 100 Mbps, the overage comes out to be 1 Mbps (101 Mbps of usage at the 95th percentile measurement minus the 100 Mbps committed rate. Consequently, the overage charge for the month would be 1 Mbps X the burst rate of $5.00.

To think about it another way, if you picture a month as 720 hours then you can have 36 hours of usage greater than the commit rate without ever incurring an overage charge.