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What's a Committed Data Rate (CDR), and other Colo jargon busted

Alex Winder | July 2020
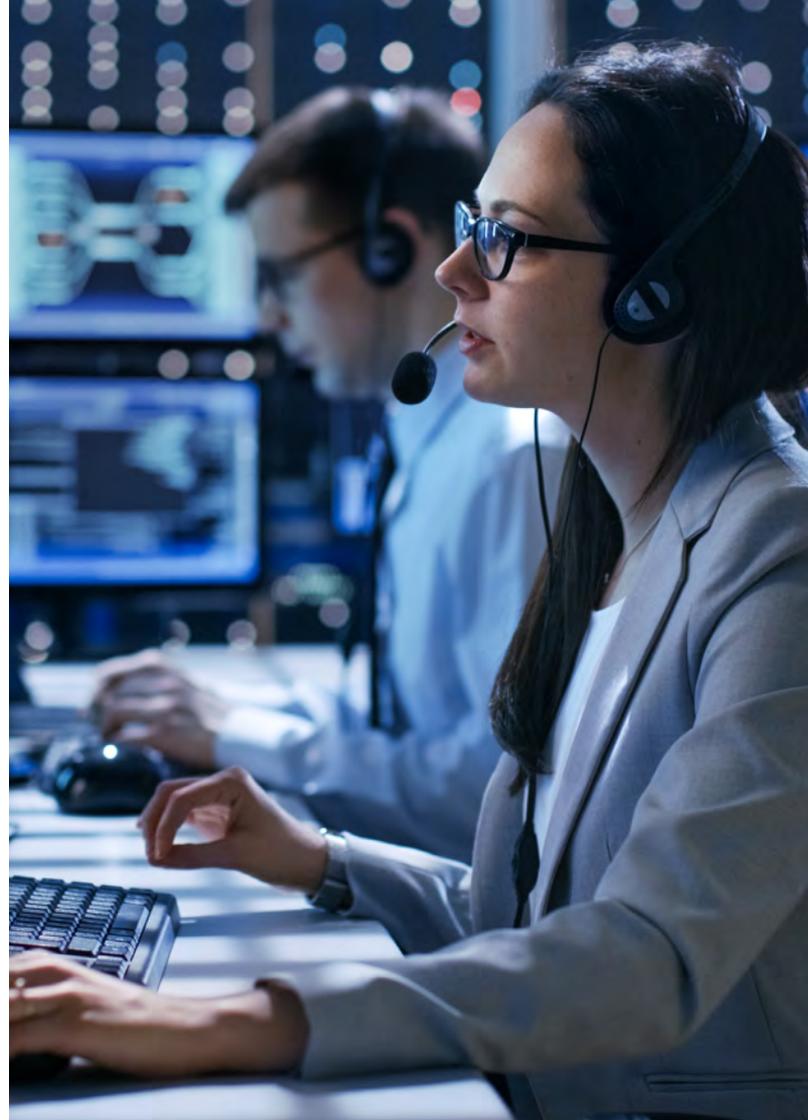
When it comes to Colocation, chances are you've heard about a Committed Data Rate (CDR) in relation to network traffic.

You might also hear that your bandwidth usage is billed at the "95th percentile" or perhaps you've seen the term "burstable?"

So, what exactly do all these different terms mean?

Let's cut through the industry jargon and find out.

What's a Committed Data Rate (CDR)?

A Committed Data Rate (CDR) is the amount of bandwidth which you can expect to receive as a minimum on your connection.

It's basically an amount of reserved throughput for your connection.

For example, with a CDR of 10Mbit you can expect to always receive a minimum throughput of 10Mbit on your connection.

One way to think of this is the network connectivity being a motorway, where a CDR would be a dedicated lane on the motorway just for you, which no one else can drive on.

What does "burstable" mean?

Alongside CDR, you might also see the term "burstable."

This means that although a specific portion of transit is reserved for you, the actual amount of available throughput could be much higher.

This is typically the medium over which your connection is provided.

For example, a 10Mbit CDR which is burstable up to 1Gbit means you get a guaranteed 10Mbit at all times but your connection is capable of transmitting up to 1Gbit of throughput, should you need it to.

This can be quite useful if you quickly need to increase your network usage to cater for increased demands.

Going back to our motorway example, this would be where, despite already having your own dedicated lane, the burstable section would be the equivalent of having more lanes on the motorway which you could drive down with more cars as need arises.

What's "95th percentile" billing on transit?

Your CDR can be billed in a number of ways, one of which is at a 95th percentile.

**This is the amount of bandwidth where, for 95% of the time, your usage is below this amount.**

Similarly, for 5% of the time your usage is above this amount.

This percentile is calculated over a period of time, such as the 95th percentile over wthe course of a month.

An alternative to 95th percentile billing is to pay per GB or TB of transmitted data.

Taking the graph below as an example, we see a 95th percentile reading of 579.60Mbit, despite the transit usage actually peaking at 950.68Mbit.

The large peak of 950.68Mbit wasn't sustained long enough to contribute significantly towards the bill as at the 95th percentile it would be discarded.
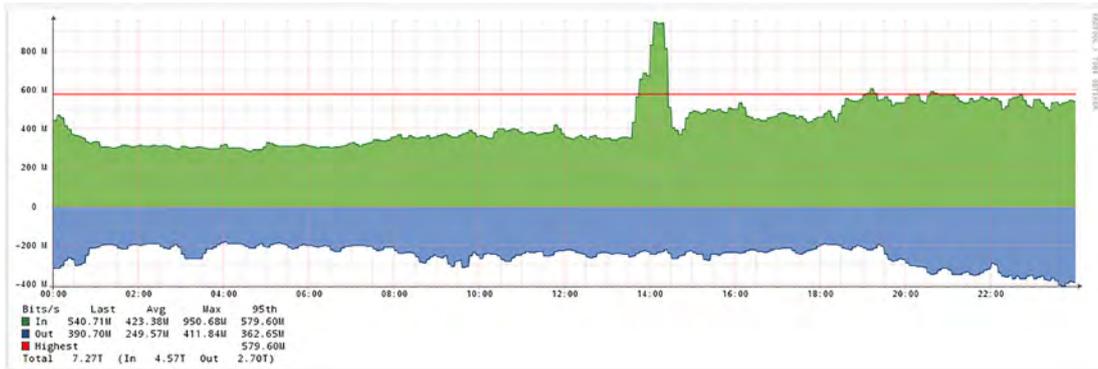
Bandwidth graph displaying 95th percentile value calculated over 24 hours

Therefore, 95th percentile billing can be much more cost-effective than pricing per GB or TB, where you're billed for the full amount of bandwidth traffic (including the peaks).

The 95th percentile model can also work out cheaper in the long run if you're expecting regular sustained bandwidth levels, as you won't be billed for all of the transit you use.

In our motorway example, this would be the equivalent of putting a toll on all lanes but only charging those cars that use the lanes for the majority of the time.

Cars that are only on the motorway for five minutes wouldn't need to pay the toll.

This is because those on the motorway for a short time wouldn't be there long enough to contribute much towards the average time spent; they'd be above the 95th percentile average for time spent on the motorway.

Why choose a Committed Data Rate?

A CDR can give you reassurance that the connectivity to your infrastructure is robust, as it's backed up by Service Level Agreements (SLAs) that guarantee a minimum level of service.

By opting for a CDR, you gain a dedicated connection to your equipment that your clients can rely on.

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At Safe Hosts, we provide a number of different Colocation connectivity options for your business. If you'd like to know more, please get in touch.

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