

What is a Microburst Link Flood?

You have gigabit and better speed links throughout your network, and your 5-minute utilization graphs all show that you have gobs of spare bandwidth on your links. With all this excessive bandwidth, you might think that your network is perfectly healthy. But in certain cases, your network might be significantly more sluggish than it appears to be.

If your network monitoring solution watches link utilization every five minutes, you end up with a very vague understanding of the actual usage of the link.

If you increase the polling frequency to every 15 seconds, you may still not see what's happening, as most traffic spikes occur within a few seconds and then disappear. It is also not advisable to poll a large number of links on a frequent basis, as it increases network and device loading.

Here is a sample scenario: If your 5-minute utilization shows 20% utilization on a gigabit link, you might think that there's a lot of available bandwidth before you have to consider adding bandwidth to that link (80%).

But what if that link was doing 120% utilization for 5 seconds, and then completely quiet for 4 minutes and 55 seconds? The link would transmit 100% utilization, and then start buffering additional packets until the buffers were full, and then it would start discarding traffic.

Standard monitoring solutions would be blind to this issue. But if you looked at what happened, you would see a lot of buffered packets (`dot3StatsDeferredTransmissions`), followed by a ton of discarded packets (`ifOutDiscards`).

Thus, if you see the deferred transmissions counter increase, and also see an increase of discarded packets, you might be suffering from Microburst Link Floods. This is typical on many networks and is an indicator that a link is flooded for a short period of time, and packets are delayed or discarded as a result.

Use the method described above to determine whether you're dealing with a microburst link flood. It is a more accurate way to determine if additional bandwidth is needed on a link or not, as it shows where the network is suffering under load.

