Using trace STREAM mode, the PowerTrace buffer overflows. What are the prerequisites to use the STREAM mode?

2026-04-08 - Comments (0) - Tracing

Prerequisites for STREAM mode are:

- 64-bit host computer to handle the large trace record number
- The average data rate at the trace port should not exceed the maximum transmission rate of the host interface in use

Peak loads at the trace port are intercepted by the PowerTrace memory, which acts as a large FIFO.

Various mechanisms to compress the trace information before streaming are implemented to reduce the amount of transmitted data.

STREAM mode bottlenecks are:

- Connection PowerDebug - PC
  - Use USB 3.0 instead of Megabit Ethernet
  - Use a good USB 3.0 cable, cross-check with a different cable
  - Do not use a USB hub
  - Check if PowerDebug Module is really connected via USB 3.0 e.g. in the **VERSION** window
- PC Hardware / USB
  - Test different USB ports
  - Cross-check with a different PC (Some USB 3.0 controllers are buggy).
- Hard disk
  - Bottleneck could be caused by a slow write access to the hard disk
  - Use SSD instead of HDD if possible
  - Make sure that the stream file is written to the faster drive (use **Trace.STREAMFILE**)
- PC Software

    - Update USB driver
    - Disable antivirus

- TRACE32 Hardware Compression: try to disable the compression: **Trace.STREAMCompression OFF** and check the impact on the **STREAM** mode

STREAM mode diagnosis - Transmission rate

- **IFCONFIG.TEST**: checks warp speed
- Evaluate the amount of generated trace data per second, e.g.
  Trace.Init
  Trace.Mode LEASH
  Go
  WAIT !STATE.RUN()
  PRINT TRACE.RECORDS()/CONVert.TIMESTOINT(RunTime.LASTRUN()) " records/sec"
- Amount of generated trace data depends on trace settings and target application!

Refer for more information to the following white paper:https://repo.lauterbach.com/publications/trace32_streaming_at_optimal_rates.pdf