Spirent **Attero-100G**

NOW WITH 25GbE

Spirent™
Promise. Assured.

New 25GbE Interfaces

Attero-100G now supports 25GbE interfaces and impairments for Fronthaul, DataCenter and other general purpose 25GbE applications.

Attero-100G Release 4.0 adds 25GbE interfaces and impairments on independent profiles to an extensive list of Attero-100G capabilities.

With this release, Attero-100G is ideally placed to emulate/impair 25GbE Fronthaul links with delayed packets, packet jitter, dropped packets, errored, repeated and mis-ordered packets etc.

Fully independent settings for 2, 4, 8 or 16 impairment profiles at 25GbE line rate:

- 25GbE: SFP28 (via adaptors and breakout cable)
- Full line-rate delay: 320ms at 25GbE (optionally 1024ms)
- Packet jitter, lost, mis-ordered, errored and repeated packets

Filtering capability:

- Filter Builder
- Import Wireshark captures

Who needs Attero-100G with 25GbE?

Radio manufacturers building and deploying 25GbE interfaces for Fronthaul, DataCenters and other general applications need to determine how real-world network conditions affect their products and services. And that's exactly what the Attero-100G with 25GbE is used for – it means Operators can check the effects of real network conditions in the lab to ensure services will run smoothly when deployed. Failing to check for acceptable quality of experience usually results in subscriber churn and loss of revenue.

Fronthaul Radio over Ethernet distribution is just one example 25GbE application. Customers also need Attero-100G with 25GbE to test OAM, Failover, Router Certification, network buffer optimization, acceptable jitter thresholds, stress testing TCP algorithms for 25GbE networks, and much more.

Why 25GbE? - 10GbE isn't sufficient bandwidth for 5G Fronthaul connections so 25GbE is needed. (Note: CPRI is an alternative technology.)
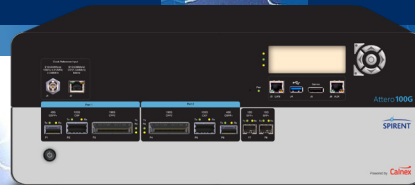
What is Fronthaul?

Whereas Backhaul links the mobile network back to the wired network, Fronthaul connects the new network architecture of Central Office centralized baseband units (BBU) to standalone, remote radio heads (RRH) at outlying cell sites.

With 4G networks, the term "Fronthaul" was created to describe the separation of the BBU from the radio unit, or the RRH as it is now called. The connection was a dedicated fiber and the CPRI (Common Public Radio Interface) protocol was created to carry the radio signal over the fiber. The radio unit simply had to modulate that signal onto the carrier making it very simple and low-cost.

With 5G networks, the idea is to create a shared network to reduce costs rather than supporting the dedicated fiber model of 4G Fronthaul. One proposal is to use Ethernet, and two IEEE groups are addressing this:

- IEEE 1914, the "Next Generation Fronthaul Interface" often referred to as RoE (Radio over Ethernet)
- IEEE 802.1CM, "Time Sensitive Networking for Fronthaul"

It has now become apparent that large bandwidths are required for 5G Fronthaul applications. The newly standardized 25GbE interface (IEEE 802.3by) is required for many of these 5G applications.

RRH
RRH
RRH
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RRH
Optical Distribution Network
Central Office (Centralized BBU)
IP/MPLS Network
Load Balancing
Fronthaul
Backhaul

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