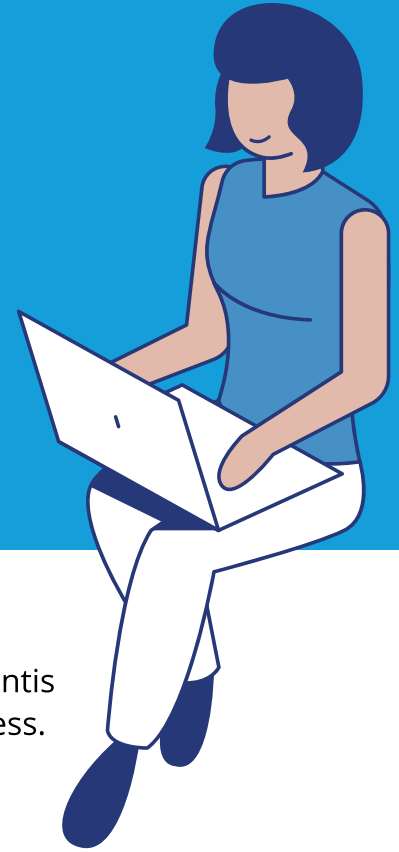# Future-proofing
access network testing with

ByteBlower

TEST FRAMEWORK

Network test automation for **Liberty Global**

Future-proofing
access network testing

Automation plan for **Liberty Global**

Liberty Global is playing a major role in the transition to fiber and 5G networks, and Excentis is helping to make this process easier. As one of the world's leading video, broadband, and communications companies, Liberty Global asked us to design and automate the testing of their access network.

Manual testing → **Automated testing** → With → *ByteBlower* **TEST FRAMEWORK**

Liberty Global

Liberty Global has invested in fibre-based, 5G and DOCSIS networks and currently provides approximately **80 million fixed and mobile connections.** They are deploying the next generation of products and services while preparing their networks for 10 Gbps and beyond. To support this ambitious rollout, Liberty Global asked Excentis automate the testing of their access network.

Excentis is proud to be helping Liberty Global navigate this transition, streamlining testing processes for next-generation products and services, and ensuring their networks are ready for the future.

Towards a **more efficient testing process**

Liberty Global aims to deliver on its promise of providing high-quality internet connectivity to its subscribers.

The Liberty Tech Fixed Network Engineering department initially focused on DOCSIS deployments, with manual testing using ByteBlower being perfectly sufficient.

With the advent of virtualization, XGS-PON and other network technologies, **the need to test every small change in their network, be it new hardware or software, or a change in configuration, demanded an automated and thorough approach.** Manual testing became too error-prone, a huge time waster and no longer viable.

Future-proofing
access network testing

The **Goal**

1 Build a framework implementation for automating traffic generation and analysis.

2 Receive expert guidance in designing and optimizing the test architecture (structure, packaging, code reuse).

3 Allow automated execution of the tests through integration in a CI/CD/CT platform, in this case GitLab.

What did we do to achieve the goal?
Steps to automate testing

Case discussion → With all stakeholders: test engineers (end users), Liberty Tech project leads, Excentis project leads, and ByteBlower test developers

Research → Selecting the right automation tools.

Base implementation → PoC of end-to-end test, from configuration file to report, run on GitLab.

Extension → An iterative process, adding more features to the test.

Complete configuration → Full test definition via configuration file (number of DUTs, number and combination of traffic streams/patterns and analysis).

Additional reporting formats → JUnit XML, HTML, JSON.

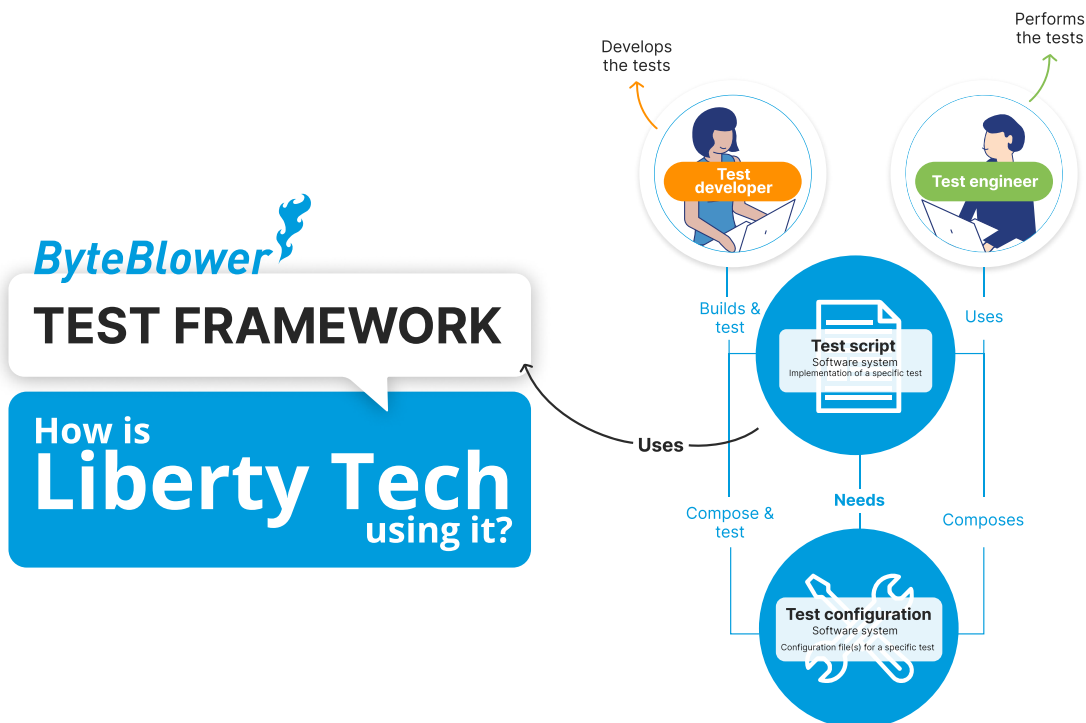✅ Our **ByteBlower Test Framework** is helping Liberty Tech automate and optimize their testing process.

✅ **Tests were fully defined** in the configuration file, specifying DUTs, traffic patterns, and analysis. This separation enables teams to streamline automation and execution independently.

✅ Engineers at Liberty Tech received **in-depth training** from Excentis engineers on how to effectively utilize the test framework and fully leverage its capabilities.

Understand better how they use it in the diagram below:

To run automated tests, the test engineers only need to build the configuration files and schedule a test script with that configuration. From that point on, the automation platform takes over

ByteBlower

TEST FRAMEWORK

How is Liberty Tech using it?

Develops the tests

Test developer

Performs the tests

Test engineer

Builds & test

Uses

Test script
Software system
Implementation of a specific test

Uses

Compose & test

Needs

Composes

Test configuration
Software system
Configuration file(s) for a specific test

✅ The automation is integrated in a CI/CD/CT platform, in this case GitLab.

Future-proofing
access network testing

In their own words:

"Test automation was key to achieving our initial Low Latency DOCSIS goals. It provided the scale, speed, and structure needed for faster, more efficient network changes. This collaboration laid a strong foundation for future automation, enabling us to innovate and deliver with greater confidence and consistency."

Graham Bell, Senior Manager, Access Network Engineering.

"Excentis' agile approach and solid preparation allowed us to quickly adapt to changing circumstances and obstacles along the way. This was proven once again during the subsequent development of our Low Latency DOCSIS test automation"

Mirko Matic, Access Network Engineer

Today, with the ByteBlower test framework, **Liberty Tech is running tests five times faster**, enabling faster deployment and allowing engineers to focus on their core tasks instead of the time-consuming manual setup.

Liberty Tech is **5x quicker**, today with BB test framework they are running **500% more tests**

Automated testing is **90% faster** than manual testing.

It takes **50% less time** to decide on the design for deployment of new features.

EXCENTIS

Future-proofing
access network testing

Point-and-click
Smooth experience for test engineers

→ Minimal configuration parameters.

→ Easily accessible and post-processable reports.

→ Integration with issue trackers, monitoring, etc.

Ease of use
For test developers and mantainers

→ Various easy-to-use building blocks, from traffic patterns to advanced analysis and reporting.

→ Each user has clearly defined responsibilities.

Lower cost per test
High reusability

→ Re-use basic traffic test implementations results in a big decrease in effort.

→ Add features or optimize all in one place: test scripts can immediately use and apply!

Different access levels

→ Have read access to what you re-use.

→ Have write access to what you develop.

→ Have review access to where you contribute.

Powered by community

→ Enables open source development, and ensures continued access as a ByteBlower customer.

What can EXCENTIS do for you?

Option A

Let's automate your traffic generation and analysis together.

Achieving significant time savings and effective automation requires expertise and dedication. No matter the technology you're working with, Excentis is here to help you save both time and costs.

Let's trace a detailed plan that adjusts to the needs of your company.

Contact us! →

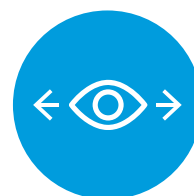### What makes us different?

Infrastructure	Deep testing	Independent	Fast	We've got the Brains	Broad overview

Option B

ByteBlower

TEST FRAMEWORK

Workshop

Get trained by the engineers that created the ByteBlower test framework.

Flexible | Quick to set-up and use

Customer centric

Contact us! →

We're humbled to be trusted by the best.

Advancing the network of today, paving the network of tomorrow.

LIBERTY GLOBAL · Charter COMMUNICATIONS · vodafone · COGECO · telenet · TELE2 OBEGRÄNSAD · Shaw) · bouygues TELECOM

CableLabs KYRIO SCTE · nbn media · Virgin media O2 · TATA ELXSI · Mediacom · MIDCO · COMCAST · DELTA FIBER

Telia · vantiva Pushing the edge · proximus · true · COX · breezeline · MaxLinear

altice · COMMSCOPE · arcadyan · AVM · SERCOM · RUCKUS COMMSCOPE

Let's advance networks together

We would welcome the opportunity to work with you to optimize, innovate and assure the robustness of your networks. And we put our heart into it, our work is our passion.

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We're known for exceptional products and word-class independent expertise in testing and training services.

Focusing on the needs of our customers is the core of our business for more than two decades.

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