

EXFO EXCHANGE — PON ID validation

End-to-end continuity and accuracy during XG(S)-PON build validation



Overview

PON ID validation is a critical step in ensuring the integrity and accuracy of XG(S)-PON network builds. It serves two key purposes:

- confirms end-to-end continuity (correct fiber path and valid light level, for example -22 dBm).
- confirms that the PON ID matches backend billing systems (no crossed fibers).

This dual check constitutes a two-way validation of:

1. **Physical continuity.**
2. **Logical/data match (PON ID alignment).**

Two-way validation enables field teams and analysts to ensure that every fiber drop:

- is correctly connected (no crossed fibers).
- matches expected power levels, for example -22 dBm
- is mapped to the correct PON ID for provisioning.

By using EXFO Exchange with the EX1 or EX10 test units test unit, QA analysts and technicians can streamline the validation process and eliminate manual steps.

Key benefits

- **Automate end-to-end continuity validation.**
- **Remove manual PON ID comparison.**
- **Capture and validate expected PON IDs in the job definition.**
- **Enable real-time verdicts in the mobile and web apps.**
- **Push validated data into EXFO Exchange and data mart.**

Context: Real-world deployment

A major operator subscribed to EXFO Exchange as part of their XG(S)-PON rollout. During the deployment, they:

- created job definitions via CSV, with each job containing between 20 and 200 test points, and 2 test types and one expected PON ID per test point.
- required 100% confirmation of continuity and PON ID accuracy.
- used the PON ID to validate network build quality before provisioning.
- worked with multiple contractors and relied on structured workflows.

Previously, they had been using manual methods such as comments in test results and post-test review sessions, which only added complexity, time, and error risks.

By using EXFO Exchange, they saved days of admin time and raised the accuracy of the results.

EXFO workflow for PON ID validation

Manager workflow (web app)

1. Prepare CSV with test points and expected PON IDs (new column).
2. Import job definition into EXFO Exchange.
3. Assign job to technician in the EXFO Exchange Web app interface.

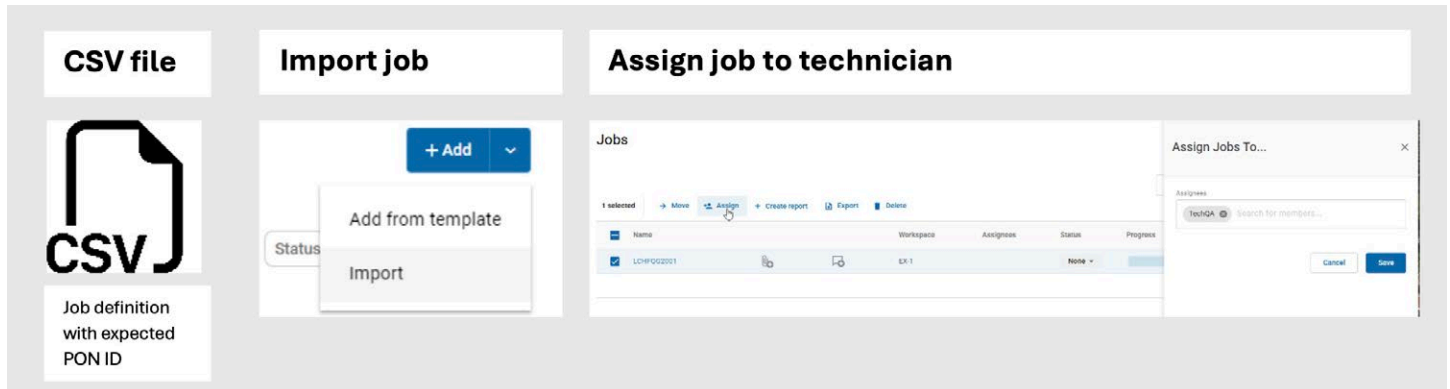


Figure 1. Manager workflow of CSV file import with PON ID column highlighted.

Technician workflow (mobile app)

1. Connect the **Fiber Under Test (FUT)** to the EX1 or EX10.
2. Run **PON ID test** on the EX1 or EX10.
3. Share results via the EXFO Exchange mobile app.
4. Select corresponding job and test points.
5. Review verdict of measured PON ID and power (vs. expected).

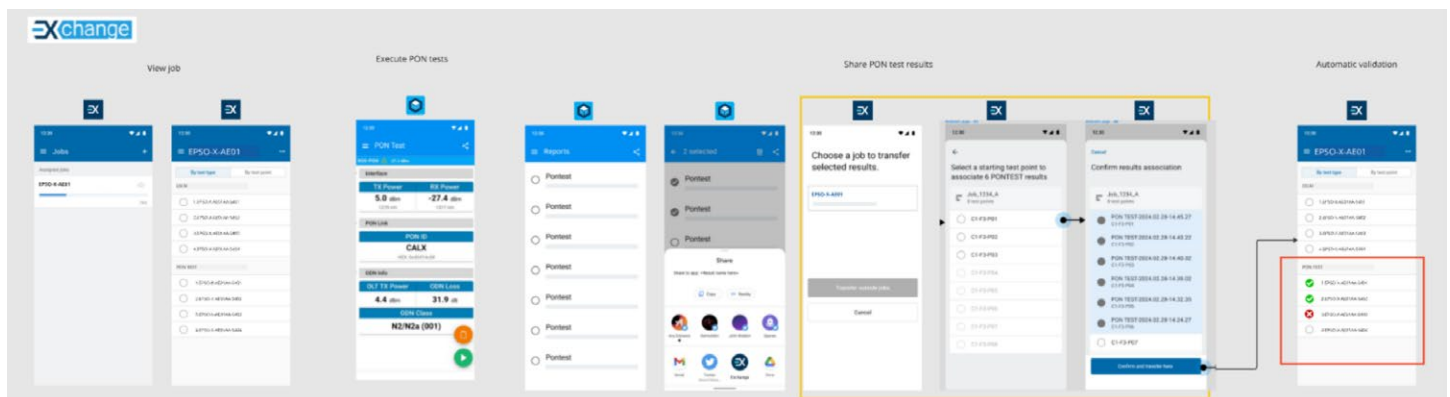


Figure 2. Mobile app job workflow with expected and measured PON ID values.

Automatic validation logic

Once results are uploaded to EXFO Exchange, the power verdict is retrieved directly from the test unit application. EXFO Exchange then performs a PON ID match check against the expected value defined in the job.

The result displayed reflects this combined validation:

✓ PON ID match & power pass = PASS (green)

✗ PON ID mismatch & power pass = FAIL (red)

✗ PON ID match & power fail = FAIL (red)

✗ PON ID mismatch & power fail = FAIL (red)

Note: Power pass/fail verdicts are generated by the EX1 or EX10 mobile app and retrieved by EXFO Exchange to assess the overall result.

Verdicts are shown in:

- Job summary.
- Result viewer.
- Result list.
- Generated reports: job, summary and combined result.

These validations also appear in structured job reports and the EXFO Exchange data mart, making it easy for QA analysts to extract and review validated test results.

Conclusion

With EXFO Exchange, EX1 and EX10, PON ID validation becomes:

- **fully automated.**
- **connected from field to back-office.**
- **reliable and auditable.**

Ideal for high-scale XG(S)-PON builds, this workflow reduces technician workload, improves data integrity, and helps operators provision faster with confidence.

Ready to simplify your workflows and boost productivity?

PON ID validation is available as part of an EXFO Exchange subscription.

Contact us to learn how EXFO Exchange can help you connect and accelerate operations.

FROM DATA TO DECISIONS

Max out **EXFO Exchange** with our solution briefs:



EXFO data marts

Actionable insights from field test data



EXFO APIs

Connecting your systems for seamlessly automated tests



Smarter job management

For fiber-optic deployment projects



Result management

Centralized test result collection for visibility and efficiency



PON ID validation

End-to-end continuity and accuracy during XG(S)-PON build validation



Organization vs. Workspace

User access, roles, and best practices for collaboration