BV-1 Verifier

RESIDENTIAL AND CPE SERVICE ASSURANCE VERIFIER

Small and cost-effective verifier for large-scale deployments that provides visibility into residential and customer premise equipment (CPE) quality-of-experience (QoE) performance assurance

KEY FEATURES

Fully integrated into EXFOWorx system for analysis and management

Triple-play QoE testing with VoIP, video and Internet assurance tests

End-to-end and single-ended tests

Zero-touch auto-provisioning

IPv4/IPv6 capabilities

BENEFITS

Cost-optimized for large-scale deployments

Simple deployment techniques for subscriber self installation

Assures high-quality triple-play services at all locations

Flexible deployment scenarios

EXFO

BV-1

The BV-1 is a cost-effective hardware probe designed to provide operators with triple-play quality-of-experience (QoE) performance testing in a small, portable and easily deployed package. This hardware probe is the latest entry in EXFO's line of EXFO Verifiers, and fully integrates into EXFO's active monitoring solution.

Typical applications for the BV-1 include:

Residential Monitoring

Due to increased spending on triple-play services, operators are faced with the challenge of delivering high-quality services to subscribers within a context of stiff competition. The BV-1 is a critical tool in the offering, providing a full suite of triple-play QoE capabilities, while accounting for the residential/large-scale requirement of significantly reduced costs and zero-touch operation. As per other verifiers, the BV-1 can be used as a 24/7 monitoring probe or for on-demand live troubleshooting of issues. Thanks to a combination of innovative self-provisioning capabilities and simple hardware, subscribers can now take part in the troubleshooting process by simply connecting the BV-1; no complicated procedures or additional steps are required.

Business/VIP Service Monitoring

Business customers' stringent requirements are often a challenge for operators, because the return-on-investment equation limits their ability to use complex monitoring equipment. However, the satisfaction of these customers, and ultimately the benefits to the operator, are closely linked to the quality of the service delivered. The BV-1 provides a cost-effective solution that enables operators to ensure high-quality service delivery to this critical market. The small design coupled with a combined management/test port is ideal for easy and nonintrusive insertion in any location. Quality-oriented metrics such as web performance, access performance and VoIP quality allow operators to continuously assure the delivery of high-quality services.

Some key elements of the BV-1 are as follows:

EXFO-Compatible

The BV-1 Verifier, although adapted for mass deployment, has the ability to support the full EXFOWorx Active testing suite, including extensive VoIP, video and IP/Internet active tests. This ensures full compatibility between the existing deployment of verifiers and new installations of the BV-1. This also ensures that the BV-1 can be easily added to existing service-level agreements (SLAs), or quickly and efficiently assigned to new test routines via EXFOWorx.

Zero-Touch Auto-Provisioning

To reduce complexity when deploying BV-1s, additional capabilities such as zero-touch auto-provisioning have been included to completely eliminate any manual configuration. Thanks to auto-provisioning from an SD card or via DNS, configuration files are automatically obtained and installed by the BV-1 without the need for any user intervention.

QoE Focus

Subscribers vote with their money, with positive customer experience being the key differentiator between failed and successful, growing operators. Ensuring the best triple-play experience is a critical part of success, and the BV-1 is a key component of this equation. By leveraging a strong suite of triple-play tests offering the following functions and applications, the BV-1 enhances operator visibility into the QoE of delivered services:

- **Browsing experience**

  Assures browsing experience and quality by measuring web performance and response time through the HTTP performance test.

- **Internet infrastructure**

  Monitors availability and response time of critical Internet infrastructure elements using the DNS active test.

- **C-VoIP/B-VoIP performance**

  Measures SIP-based VoIP performance through the Active SIP test. The BV-1 can call devices/numbers, or respond to calls for bidirectional measurement and troubleshooting capabilities.

- **Internet protocol (IP) performance**

  Measures availability and tracks any path change using Internet control message protocol (ICMP) tools.

- **Transport performance**

  Measures asymmetrical bandwidth and L4 performance through user datagram protocol (UDP) tests.

- **Responder**

  The BV-1 can be used as a cost-effective responder for active tests leveraging standards-based tests such as UDP echo and TWAMP Light (RFC 5357).

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1 SD card slot (on the side)

2 USB 2.0 for select
Wi-Fi/wireless/serial dongles

3 Ethernet RJ-45 (10/100/1000)

4 Reset button

5 Power: High-power USB (Type B)
and AC adapter

SPECIFICATIONS

SUPPORTED MONITORING TESTS

UDP Echo Responder	DNS Active
UDP Bandwidth	Ping/Traceroute Active
FTP Active Performance	TWAMP Responder (Lite)
HTTP Active Performance	Advanced VoIP SIP Active

POWER

AC power (external AC adapter)	100 V to 240 V; 50 Hz to 60 Hz Output: 5.35 W; 2A
USB power	Type-B USB connector; supplied with type-B-to-type-A conversion cable

INTERFACES

1 x Ethernet RJ45 (10/100/1000)

1 x USB (USB 2.0) for select Wi-Fi/wireless/serial dongles

1 x SD card slot

Power: High-power USB (Type B) + AC adapter

1 x reset button

PHYSICAL

Size (H x W x D) (without mounting plate)	166 mm x 117 mm x 30 mm (6 $^{17}/_{32}$ in x 4 $^{19}/_{32}$ in x 1 $^{5}/_{16}$ in)
Weight	0.265 kg (0.584 lb)
Optional VESA mounting plate for flat wall-mount installation	

ENVIRONMENTAL

Temperature	Operating Storage	0 °C to 40 °C (32 °F to 104 °F) −40 °C to 70 °C (−40 °F to 158 °F)
Relative humidity		5 to 95 % non-condensing
Altitude	Operating Storage (at minimum)	−60 m to 1800 m (−197 ft to 5906 ft) −300 m to 12 000 m (−984 ft to 39 370 ft)

REGULATORY

EMC standards	EN 55022/55024; (Title 47 CFR) FCC Part 15, Subpart B; ICES-003 Class B
Safety	IEC/EN CSA/UL 60950-1 Information Technology Equipment, Safety–Part 1: General requirements
Certification marks	CE, cULus
Compliance	RoHS

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