NetBlazer Series

THE UPRISING STARTS NOW

The Freedom to Adapt Your Multiservice Testing Solution to Every Need

EXFO

MULTISERVICE

RAISING THE BAR ON FIELD-TESTING AND EQUIPMENT MANAGEMENT EFFICIENCY

Whether due to global economic pressure or fierce competition, operators are being forced to curb their investments and rationalize their expenses. These austerity measures translate into daily constraints on operations. The main challenge is no longer simply dealing with complex or unpredictable situations in the field, but rather doing more, faster, with less.

Because network operators must continuously find ways to offer new, cutting-edge services at the most competitive price, their objectives are to innovate both from a technological and operational standpoint, shorten time to revenue and gain market share. This puts tremendous pressure on their technical teams to become experts on the latest technological and service specifications. In short, technicians now need to activate, validate and troubleshoot services faster and more effectively than ever before.

NETWORK CHALLENGES

Operational efficiency is the name of the game, and managers must juggle all of these technological, operational and budgetary restrictions:

> Reduce the number of technicians

> Increase the average speed of execution

> Make jobs as easy as possible for technicians

> Spend less on new equipment

> Spend less on training

> Support multiple technologies/services

Deciding on the right course of action is no easy task, because it can have a significant impact on quality of service and customer experience.

Extensively training your team and providing each technician with a complete testing solution could cause you to bust your budget.

or

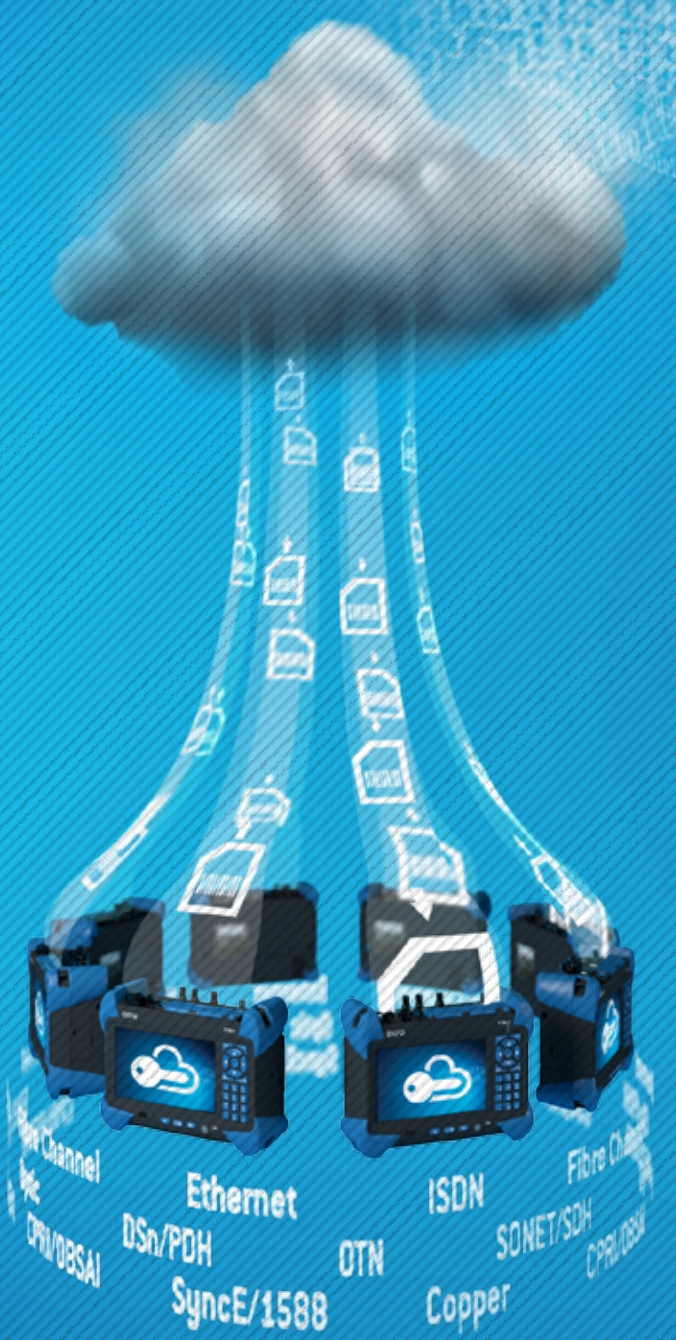You could stretch your budget and resources, and manage crises on a day-to-day basis.

EXFO HAS A BETTER OPTION.

EXFO | FTB-1

EXFO Connect Compatible

THE NET

1 AUTOMATION AND BUSINESS INTELLIGENCE

EXFO|Connect

Cloud-based equipment and test data management

2 BUDGET FLEXIBILITY

EXFO TFv
Test Function Virtualization

3 FIELD-TESTING EFFICIENCY

FTB-1 + NetBlazer modules

Comprehensive multiservice testing

Fibre Channel
CPRI/OBSAI
Ethernet
DSn/PDH
SyncE/1588
OTN
ISDN
Copper
SONET/SDH
Fibre Channel
CPRI/OBSAI

BLAZER ENVIRONMENT

THERE'S MORE TO MULTISERVICE TESTING THAN JUST TESTING

With the NetBlazer Series, EXFO lets you break free from all constraints to achieve true budget flexibility and field efficiency—a revolutionary solution in the industry. By integrating advanced multiservice testing modules, the EXFO Connect cloud-based service and EXFO TFv—Test Function Virtualization into the versatile FTB-1 platform, the NetBlazer promises that all technicians—anywhere, anytime—will have the right solution and knowledge to effectively handle any situation they may face in the field.

FTB-1 PLATFORM
› Total connectivity
› Modularity
› EXpert tools

FTB-880 MULTISERVICE TESTING MODULE
› CPRI/OBSAI, DSn/PDH, ISDN, SONET/SDH, OTN,
  Fibre Channel and Ethernet at up to 11.3 Gbit/s and SyncE/1588
› EtherSAM Ethernet service activation and troubleshooting test
  methodology (ITU-T Y.1564)
› Simultaneous bidirectional testing (patent-pending)

EXFO Connect
› Centralized, cloud-based environment
› Automated test equipment and data management

EXFO TFv—Test Function Virtualization
› Includes FTB Anywhere floating licenses and FTB OnDemand time-based licenses
› Eliminates barriers to field-testing efficiency
› Ensures the timely availability of required test functionality
› Provides financial flexibility with spending options tailored to CAPEX and/or OPEX

The NetBlazer Series equips your technicians to be field-testing experts **without forcing you to compromise on budget or operational efficiency.**

FTB-1

Multitechnology field testing.
Maximum connectivity.

The FTB-1 Platform combines the industry's largest thin film transistor (TFT) screen (7-in) with hybrid touchscreen/keypad navigation for unprecedented configuration simplicity. What's more, platform connectivity is abundant via Wi-Fi, 3G, Bluetooth, Gigabit Ethernet and USB ports, making it accessible in any test environment.

The unique modularity aspect of the FTB-1 is unsurpassed when it comes to offering functionalities that make testing multiple technologies easy and efficient.

PLATFORM

EMPOWERING FRONTLINE TECHNICIANS

The FTB-1 Platform is the culmination of EXFO's time-proven expertise in portable platform design, delivering a next-generation open-testing solution for frontline network technicians involved in construction, commissioning and troubleshooting of infrastructures and services. The built-in intelligence of the FTB-1 empowers frontline technicians to take field-testing efficiency to the next level.

EXPERT TEST TOOLS

The FTB-1 offers a range of built-in custom and third-party applications (such as **Wireshark**, **JPerf** and **Network Stumbler**) that increase the autonomy and productivity of technicians by providing additional testing capabilities.

EXpert VoIP TEST TOOLS

The **EXpert VoIP Test Tool** generates and responds to voice-over-IP calls directly from the test platform to validate performance during service turn-up and troubleshooting.

EXpert IP TEST TOOLS

The **EXpert IP Test Tool** integrates six commonly used IP test tools (including LAN, VLAN and ping/traceroute,) into one platform-based application to ensure that field technicians are prepared for a wide range of testing situations.

EXpert IPTV TEST TOOLS

The **EXpert IPTV Test Tool** enables set-top-box emulation and passive monitoring of IPTV streams, allowing for quick and easy pass/fail verification of IPTV installations.

ConnectorMax2 delivers clear-cut pass/fail verdicts, eliminating guesswork in the field and helping save time and money.

THE ULTRA-PORTABLE

Ethernet, DSn/PDH, ISDN, SONET/SDH, OTN Fibre Channel, CPRI and SyncE/1588 PTP up to 11.3 Gbit/s

EXFO allows technicians to bring comprehensive, fast and intuitive testing power into the field— **anywhere, anytime**.

EtherSAM

FTB-880 NetBlazer Multiservice Tester

> True wire-speed, stateful TCP throughput based on RFC 6349 for undisputable SLA enforcement of Ethernet services

> Carrier Ethernet OAM testing covering Y.1731, G.8113.1 (MPLS-TP), MEF and 802.1ag standards

> Full-line-rate packet capture and advanced filtering from 10M to 10G

> Layer-2 transparency testing with predefined configurations

> Efficiently assess Fibre Channel networks with best-in-class coverage via 1x, 2x, 4x, 8x and 10x interfaces

> FTTA validation from 1.2 Gbit/s to 9.8 Gbit/s via Layer-2 CPRI protocol and unframed BER testing

> Complete ISDN solution for testing and troubleshooting DS1 or E1 primary rate interfaces (PRI)

> Faster Ethernet service activation with bidirectional EtherSAM (ITU-T Y.1564) and RFC 2544 test suites, multistream traffic generation, Through mode and bit-error-rate (BER) testing

* The FTB-870 NetBlazer option is available for testing and validating SONET/SDH, OTN, Fibre Channel, CPRI and Ethernet interfaces up to 11.3 Gbit/s.

MULTISERVICE TESTER SERIES

Ethernet, Fibre Channel, CPRI and SyncE/1588 PTP

EtherSAM

FTB-860x NetBlazer Series Ethernet Tester

> Accelerate Ethernet service activation with bidirectional EtherSAM (ITU-T Y.1564) and RFC 2544 test suites, multistream traffic generation, Through mode and bit-error-rate (BER) testing

> True wire-speed, stateful TCP throughput based on RFC 6349 for undisputable SLA enforcement of Ethernet services

> Carrier Ethernet OAM testing covering Y.1731, G.8113.1 (MPLS-TP), MEF and 802.1ag standards

> Full line-rate packet capture and advanced filtering from 10M to 10G

> Layer-2 transparency testing with predefined configuration

> Efficiently assess Fibre Channel networks with best-in-class coverage via 1x, 2x, 4x, 8x and 10x interfaces

> FTTA validation from 1.2 Gbit/s to 9.8 Gbit/s via Layer-2 CPRI protocol and unframed BER testing

DSn/PDH and SONET/SDH

FTB-810x NetBlazer Series Transport Tester

> Complete test suite for DSn/PDH, ISDN and SONET/SDH interfaces up to 10 Gbit/s

> Complete ISDN solution for testing and troubleshooting DS1 or E1 primary rate interfaces (PRI)

> Simplified BER testing with pass/fail indicators based on user-defined thresholds

CLOUD-BASED SOLUTION

> Universal access to server
> No infrastructure to support
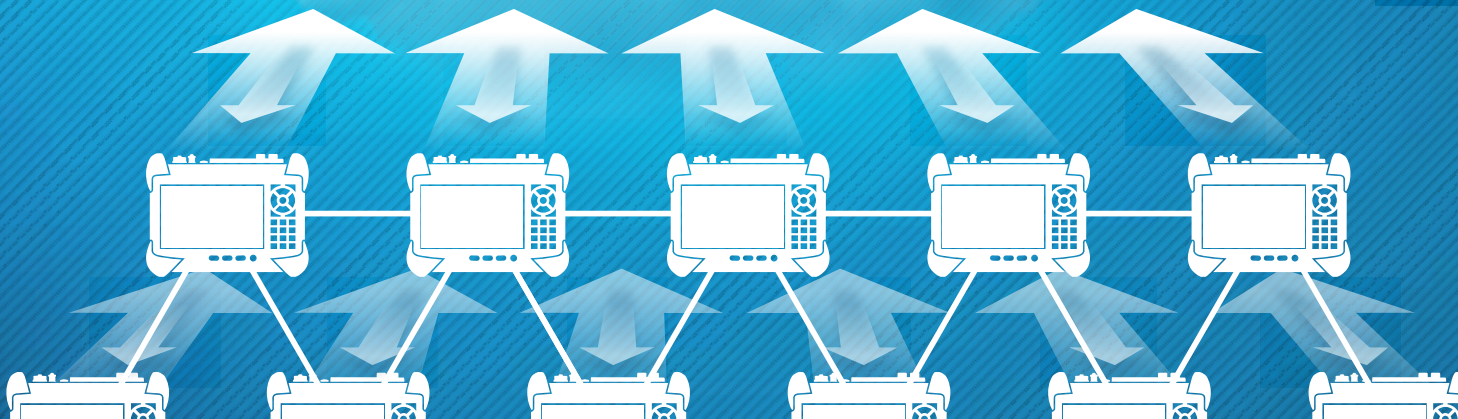> Seemless deployment

EXFO

EXFO|Connect

CENTRALIZED MANAGEMENT

> Platform profiles
> Inventory reports
> Configuration validation

AUTOMATED DATA UPLOAD

> Test data from all connected FTB platforms are stored and secured in the centralized server as soon as the tests are done

CONNECT

BREAKING DOWN THE BARRIERS OF MULTISERVICE TESTING

The NetBlazer Series harnesses the power of EXFO Connect, a unique cloud-based solution that eliminates the daily operational challenges of tracking and maintaining an entire fleet of test equipment, of correlating all test results and converting all the captured data into actionable information. EXFO Connect enables you to streamline test operations, from build-out to maintenance.

Test data transformed into business intelligence

Automating Equipment Management

The Test Equipment Manager application helps manage software updates by keeping track of the equipment fleet and ensuring that all test platforms are optimally configured. Managers can push a given test configuration to every platform to ensure that all technicians are using the same parameters and procedures, thus standardizing measured and reported results. The best part? It's all automated.

Centralizing and Consolidating Test Data

The Test Data Manager application extracts the test results from each platform, uploads them to a secure, centralized, cloud-based server, and automatically generates user-specific reports. The application also provides full access to test results throughout the organization.

EXFO TFV—

TEST FUNCTION VIRTUALIZATION

MAXIMIZING TEST ASSET INVESTMENTS

EXFO TFv—Test Function Virtualization is the industry's first suite of defined offerings that focuses on test function virtualization. EXFO TFv offers all the benefits of virtualization through the seamless enablement of test functions on any EXFO test asset at any time. Ideal for service providers who are looking to scale their testing requirements to their specific needs.

Included under the EXFO TFv umbrella are FTB Anywhere floating licenses and FTB OnDemand time-based software licenses.

FTB Anywhere gives NetBlazer Series users the ability to share floating software test licenses and acquire the functionality they need for any job—anywhere, anytime. Jobs will no longer be delayed due to technicians having the wrong testing features. Field managers will no longer have to manage a fleet of test units as a result of not having the budget needed to equip all testing units with the latest features. FTB Anywhere is agile and flexible where other more static alternatives are not.

FTB OnDemand enables NetBlazer Series users to activate time-based software licenses covering a wide range of test functionalities to match their exact needs. FTB OnDemand gives NetBlazer customers the flexibility to perform a specific test on a specific module for a specific period of time. This offering provides a barrier-free entry, reduced costs, increased business efficiency and greater flexibility. Thanks to EXFO's leadership in cloud-based test solutions, FTB OnDemand delivers a unique and flexible software architecture to which best-in-class NetBlazer test modules can easily adapt.

Managing the equipment pool just got a whole lot easier.

EXFO TFv
Test Function Virtualization

FREEDOM FOR ALL

TIER-1 TECHNICIANS

THE NETBLAZER SERIES ENABLES TECHNICIANS TO ADAPT A MULTISERIVCE TESTING SOLUTION TO EVERY NETWORK.
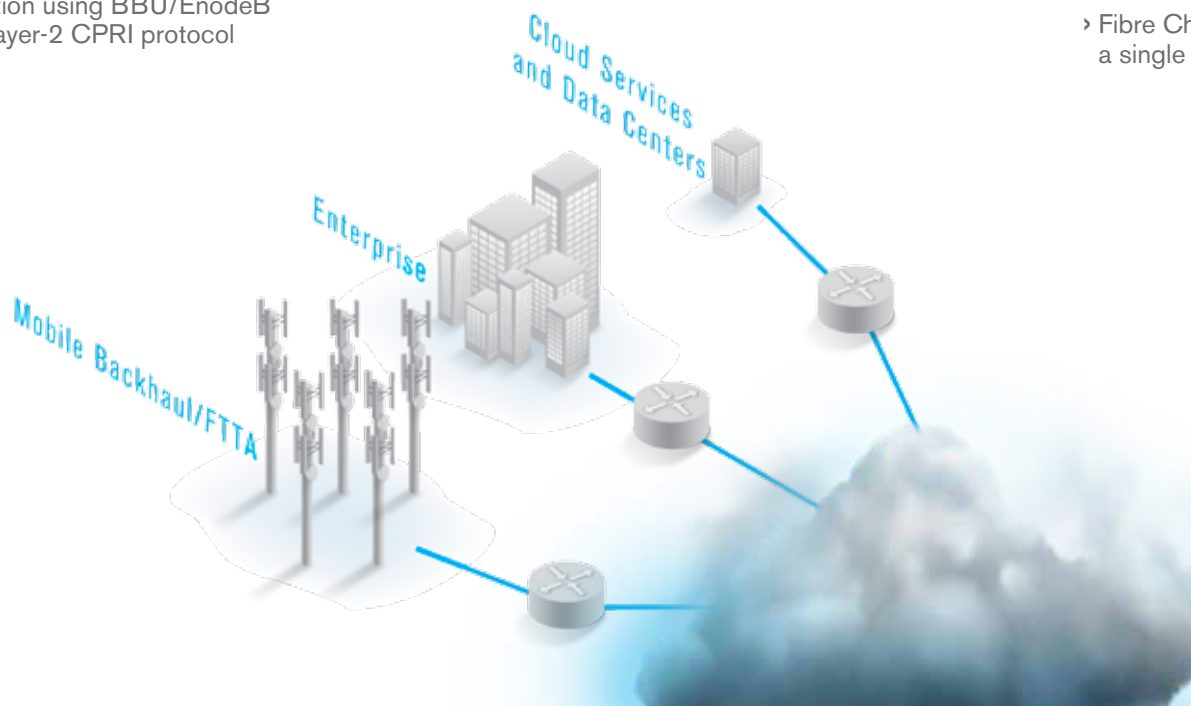
Mobile Backhaul/Fronthaul

› Complete Ethernet service validation
   › KPIs: Latency, frame loss, throughput and packet jitter
› Packet synchronization
› Microwave: Asymmetrical links
› Fiber characterization, including fiber-to-the-antenna (FTTA)
   › FTTA RRH validation using BBU/EnodeB emulation of the layer-2 CPRI protocol

Enterprise

› Complete service validation
› Next-generation: OTN and Ethernet
› Legacy: ISDN/PR, E1/T1
› Ultra low-latency services

Cloud Services and Data Centers

› Cloud transport connectivity
   › Users to content (DC): Access to data
   › Content (DC) to content (DC): Large sets of data moved across the cloud
› Validation of performance, availability and multiple levels of QoS (Ethernet and optical)
› Fibre Channel 1x, 2x, 4x, 8x and 10x on a single platform

EXFO'S INNOVATION

FTB-500 Platform

EXFO Connect, EtherSAM

2013
FTB Anywhere Floating Licenses,
Ethernet One

FTB-700G Series
Optical, Ethernet and Multiservice Testers

2014
EXFO TFv
Test Function Virtualization

LEADERSHIP

REVOLUTIONIZING MULTISERVICE FIELD TESTING

For over a quarter century, EXFO has been at the forefront of telecom test and measurement innovation thanks to an unwavering focus on R&D. Every year, nearly 20% of revenues and 40% of the staff are devoted to R&D efforts. Thanks to this tireless effort towards innovation, EXFO has earned a number of prestigious awards.

FTB-880 NetBlazer was named best Carrier Ethernet test and measurement solution for its comprehensive set of automated and advanced test functionalities.

EXFO was acknowledged for its leadership, innovation and excellence in capturing significant market share over a period of three years.

EXFO was recognized as the fastest-growing T&M vendor within the global SONET/SDH and OTN test market, establishing itself as the solid no. 2 in the industry.

The NetBlazer has them.

With these features, technicians are equipped to get first-time-right results and quickly overcome the field-testing challenges that can lead to repeat jobs and unnecessary truck rolls.

SONET/SDH Testing
› OC-3 to OC-192
› STM-1 to STM-64

OTN
› OTU1/OTU2
› OTU1e/2e
› OTU1f/2f

DSn/PDH Testing
› DS1, DS3, E1, E3
› Dual DS1/DS3 monitoring

ISDN PRI
› DS1/E1 PRI
› Data/3.1 Khz or voice calls
› Talk or listen via headset

CPRI/OBSAI
› Layer-2 CPRI protocol from 1.2 to 9.8Gbit/s, including unframed BER testing
› OBSAI 3.1G

EtherSAM (ITU-T Y.1564)
› Faster, standards-based Ethernet service-activation method

RFC 2544
› Legacy Ethernet turn-up

Multistream Traffic Generation
› Industry leading, with up to 16 streams of completely modifiable IPv4/IPv6 traffic flows

ExacTCP
› True wire-speed, stateful TCP throughput based on RFC 6349

Fibre Channel
› Complete suite of 1x, 2x, 4x, 8x, 10x interfaces

EtherBERT
› Bit-error-rate testing up to layer 4

Through Mode
› In-service troubleshooting on live networks

SyncE/1588
› Establish a SyncE link (one-way or two-way delay)

Bidirectional Testing
› Simultaneous bidirectional results including one-way latency for EtherSAM and RFC 2544

Carrier Ethernet OAM
› Perform SLA conformance testing with Y.1731, G.8113.1 (MPLS-TP), MEF and 802.1ag standards

THE NETBLAZER SERIES AT A GLANCE

Simply choose the best NetBlazer solution according to the powerful features you need for your transport, Ethernet and multiservice network testing job.

NETBLAZER MODULES	TRANSPORT ONLY		LOOPBACK ONLY	ETHERNET ONLY		MULTISERVICE	
	FTB-810	FTB-810G	FTB-860GL	FTB-860	FTB-860G	FTB-870	FTB-880
DSn/PDH testing	✓	✓					✓
ISDN (PRI)	✓	✓				✓	✓
SONET/SDH testing (2.5G)	✓	✓				✓	✓
SONET/SDH testing (10G)		✓				✓	✓
OTN						✓	✓
Fibre Channel 1x, 2x, 4x				✓	✓	✓	✓
Fibre Channel 8x, 10x					✓	✓	✓
Ethernet testing (1G)			✓*	✓	✓	✓	✓
Ethernet testing (10G)			✓*		✓	✓	✓
CPRI/OBSAI (2.5, 3.1G)				✓	✓	✓	✓
1588 PTP / SyncE				✓	✓	✓	✓
Carrier Ethernet OAM				✓	✓	✓	✓
ExacTCP				✓	✓	✓	✓
Packet Capture/Filters				✓	✓	✓	✓
CPRI 1.2G to 6.1G				✓	✓	✓	✓
CPRI 1.2G to 9.8G					✓	✓	✓

* Bidirectional loopback partner

NO REPEAT JOBS
Reduce truck rolls–**get the job done right the first time.**

JOIN THE UPRISING

GET UNPRECEDENTED OPERATIONAL EFFICIENCY

> **Complete multiservice testing power...**
> Choose from a full set of features: DS0 to OTN, 10M-to-10G Ethernet, 10x Fibre Channel, FTTA, ISDN PRI, EtherSAM, etc.

> **...for all your technicians and test units...**
> Share cloud-based licenses across your organization.

> **...within your test equipment budget**
> Achieve optimal field-testing efficiency without paying more.

Find out more at EXFO.com/uprising

EXFO