

# 2017 ANNUAL REPORT



# CHAIRMAN'S LETTER



Dear members and industry colleagues,

We continue to enthusiastically adapt to changes arising from our strategic transformation; to be ever more agile and collaborative in our development and communication of new work. In 2017, participation as measured by the number of new projects, initiatives and increase in the number of members contributing has been quite extraordinary. This is testament to the bold decisions that the leadership team took in 2016 to transform the Forum and the way we work. There is more to do but we have made huge strides in 2017.

Our overarching purpose remains the same, namely to provide value in a way that best serves the industry, our membership and end-users and to keep focus on incremental revenue-generating services and seamless migration. These become the context for the wide variety of inter-related technical projects and initiatives described in this report. We are taking a holistic view of all drivers and technologies that feed network transformation in the Broadband ecosystem and that shapes the Forum's work program and operations.

Our work encompasses all aspects of the broadband ecosystem; from the connected home or business, virtualization of broadband with NFV and SDN, the challenges for 5G fixed/mobile convergence, to the realization of the gigabit society. The transformation of the Forum itself is evident in the introduction of new software groups, Open Broadband Labs and project groups - all introduced in 2017. The level of expertise and experience of our member organizations and their participants sets the standard for the industry. The momentum is both remarkable and exciting to all of us who participate.

The many projects/hot topics in 2018 are managed by the Work Areas and other groups. Here's just a few of them:

NFV/SDN and YANG data modeling are now at the heart of every project. Our new virtual business gateway and fixed access network sharing are two such use cases. The recently-published CloudCO framework specification with a large number of member contributors is another key development

The many projects/hot topics in 2018 are managed by the Work Areas and other groups. Here's just a few of them:

- The User Service Platform with its much-extended sphere of device influence encompasses IoT and carrier-class Wi-Fi will have impact within and beyond the managed home and builds on our flagship TR-069
- Our work on 5G hybrid wireless-wireline in collaboration with 3GPP, and 5G transport will be key for the industry.
- In May, we launched our Open Broadband Lab program. It leverages open-source to create interoperable, scalable solutions. Two projects are in full swing working with outside organizations will be tracked by many
- Building an ultrafast Gigabit society: 42 Gfast interoperable solutions have been certified since June 2017 and the many service provider deployment announcements bear witness to the success of this new hybrid fiber/copper technology
- In 2017 we added the Gfast and NGPON2 Councils and raised awareness of their access technologies and certification with world-class, standing-room-only multi-track events, such as our educational BASE events alongside major conferences
- Introduced in 2017, the Executive Advisory Council was established to provide an executive C-level and forward-thinking lens through which the Forum can keep an insight on industry trends to shape our future
- The transition to our state-of-the-art implementation of integrated collaborative tools was completed in 2017. It is being used to create dynamic interactions and rapid worldwide development in a way not previously possible. At the time of writing we have 1,400 users (from 300 in January 2017), 2,000 collaborative pages, solid library of YANG data modules and approaching 19,000 broadband contributions on our JIRA site

In this letter I can do no more than whet your appetite. More than ever, we look forward to your active participation so that more of your colleagues get the full benefits of membership. I know that with your active engagement, the Forum can continue to serve your needs, the needs of the broadband industry and our collective customers.

On behalf of the Board and staff, may I take this opportunity to thank for your continued support.

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin Foster". The signature is stylized and includes a long horizontal stroke at the end.

Kevin Foster CEng, FIET, Chairman, The Broadband Forum

# 2017 FORUM LEADERSHIP



Kevin Foster  
Chairman  
BT



Tom Starr  
President  
AT&T



David Sinicrope  
Vice President  
Ericsson



Frank Van der Putten  
Treasurer  
Nokia



Lincoln Lavoie  
Secretary  
Univ. of New Hampshire, IOL



Ken Kerpez  
Board Member  
Assia



Ken Ko  
Board Member  
Adtran



Aleksandra Kozarev  
Board Member  
Intel



Robin Mersh  
CEO  
Broadband Forum



Les Brown Board  
Member  
Huawei Technologies



Manuel Paul Board  
Member  
Deutsche Telekom



Mauro Tilocca Board  
Member  
Telecom Italia



Michael Fargano  
Chair Tech. Committee  
CenturyLink

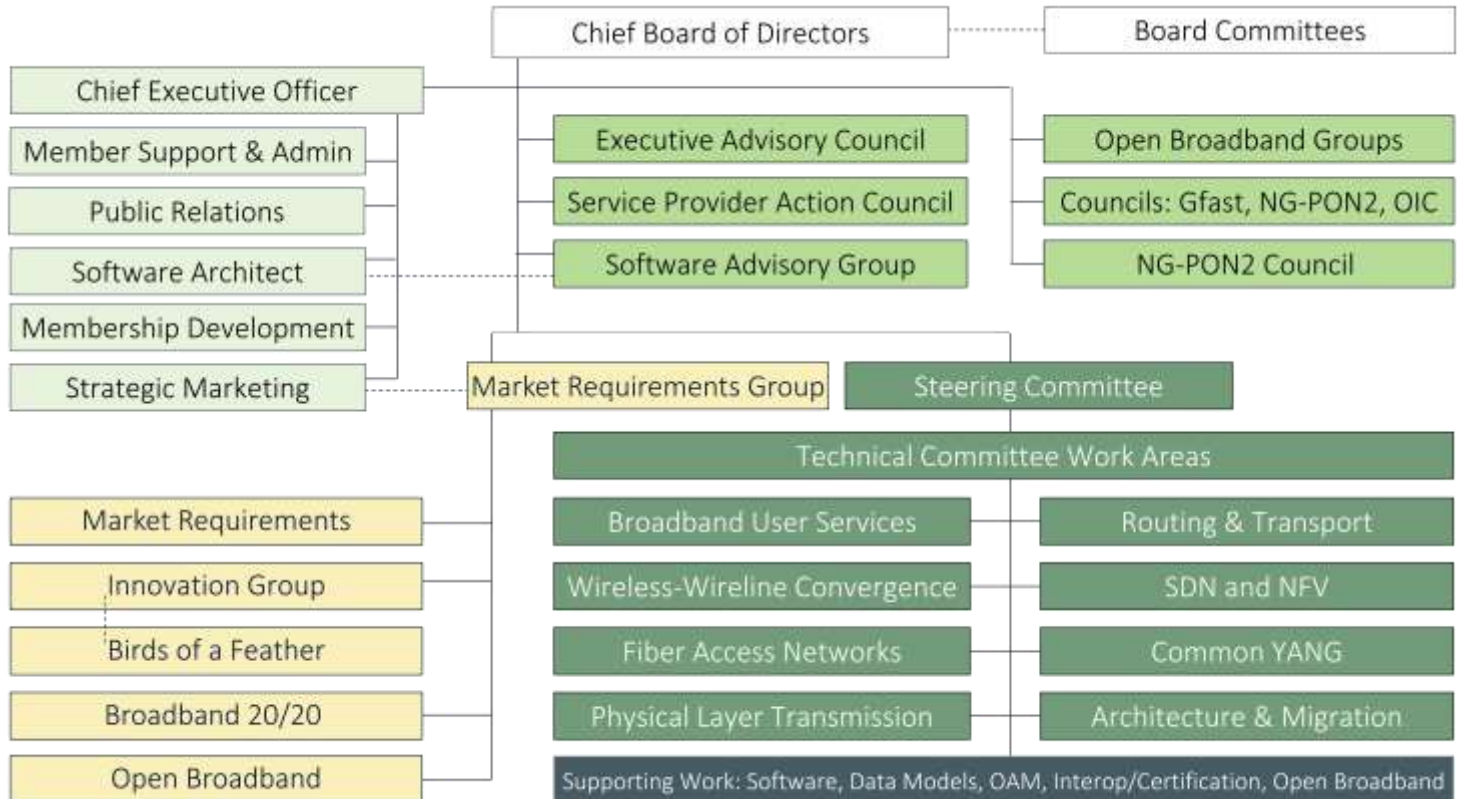
## In the 2017 Annual Report

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# 2017 PUBLISHED WORK

ATP-069 Issue 2	TR-069 Abstract Test Plan (Corrigendum 1)
ATP-337	G.fast Certification Abstract Test Plan
TR-114 Issue 3	VDSL2 Performance Test Plan (Amendment 1)
TR-140	TR-069 Data Model for Storage Service Enabled Devices (Amendment 3)
TR-142 Issue 3	Framework for TR-069 enabled PON Devices
TR-155 Issue 2	GPON ONU requirements for CPE
TR-156 Issue 4	Using GPON Access in the context of TR-101
TR-167 Issue 3	GPON-fed TR-101 Ethernet Access Node
TR-177	IPv6 in the context of TR-101 (Corrigendum 1)
TR-178 Issue 2	Multi-Service Broadband Network Architecture and Nodal Requirements
TR-208 Issue 2	Performance Test Plan for In-premises Powerline Comms Systems
TR-221	MPLS in Mobile Backhaul Networks (Amendment 2)
TR-285	Broadband Copper Cable Models (Amendment 1)
TR-287 Issue 2	PON Optical-Layer Management
TR-298 Issue 2	Management model for DSL line test
TR-301 Issue 2	Architecture and Requirements for Fiber to the Distribution Point
TR-328	Virtual Business Gateway
TR-352	Multi-wavelength PON Inter-Channel-Termination Protocol
TR-355	YANG Modules for FTTdp Management (Corrigenda 1&2)
TR-370	Fixed Access Network Sharing - Architecture and Nodal Requirements
TR-383	Common YANG Modules for Access Networks
TR-384	Cloud Central Office Reference Architectural Framework
TR-390	Performance Measurement from IP Edge to CE using TWAMP Light
MR-363	Home Network Diagnostics Tools and Mechanisms
MR-404	Traffic Management in Multi-Service Access Networks

## FORUM ORGANIZATION



# LEADERSHIP GROUPS

## **Service Provider Action Council**

The SPAC (Service Provider Action Council) is a key influential standing committee keeping the Forum connected to user requirements - the key financial realities of the market. Open exclusively to the service provider membership it offers continuous direction on requirements to ensure that strategic work has the service provider engagement needed to achieve timely standards development.

## **Steering Committee**

The steering committee primary goal is to execute the Forum's strategy via the Work Areas of the Technical Committee. It is the main conduit for the leadership to monitor work in progress across the Forum. It influences the technical work and acts as a clearinghouse for new projects and Innovation Group ideas. It oversees the formation of project streams (groups of related projects) and appointment of Work Area Directors implementation of procedures and use of tools and the technical content of meetings. It also coordinates the important items in the Forum's Liaison Program with almost every industry standards body and open source organization.

*Michael Fargano, CenturyLink – Technical Committee and Steering Committee Chair*

## **Software Advisory Group**

The SAG (Software Advisory Group) comprises contributing Forum member companies and provides a center of software expertise acting as a "think tank" within the Forum. It advises on engagement with external SDOs and open source organizations on the processes and modeling tools needed to enable the Forum to work as an agile software-focused organization, the challenges of IPR and balancing the Forum's role on the definition of requirements and service attributes with the implementation of code and prototyping.

*William Lupton, BBF – Chair*

## **Innovation Group**

The Innovation Group was formed as the incubator for new projects such as the developments in 5G. As envisaged in the Broadband 20/20 vision document, the Innovation Track began work on Broadband Assured IP Services. The Forum has long recognized the need for performance-assured services that are secure, standardized, on-demand and user-initiated and is leveraging several new technologies (SDN, NFV, G.fast, etc.), its IP expertise and experience with more than 350 million TR-069 installations. The Innovation Group also works with various member groups to host "Birds of a Feather" events held at most quarterly meetings.

*Christele Bouchat, Nokia and Mauro Tilocca, Telecom Italia – Co-Chairs*

## **Executive Advisory Council**

Introduced in 2017, the Executive Advisory Council was established to provide an executive C-level and forward-thinking lens through which the Forum can keep an insight on industry trends to shape our future. The genesis of the Council is the profound changes in the industry - a paradigm shift both in terms of technology and methodology. The questions regarding the impact on business value and what sort of deliverables are required is the main conversation of the BBF's Executive Advisory Council.

*Robin Mersh, CEO BBF - Chair*

## **Other new Board Groups**

Also introduced in 2017, the Gfast council, the NG-PON2 council and two Open Broadband groups (OB-BAA and Starfish) are described later in this report.

# HOLISTIC BROADBAND

The wide array of inter-related technologies & approaches in transition means that while delivering excellent point solutions is critical, focusing alone on individual elements is a limiting strategy.

This is why the Forum takes a holistic view of the drivers and technologies that feed network transformation and, in that context, seek to add value in a way that serves the industry, our membership and end-users



## Holistic Broadband

- A commitment that results in a set of inter-related BBF deliverables enabling provider differentiated services
- Is not a monolithic system designed for specific closed solutions

## WORK AREAS

The Work Areas represent the heart of the Broadband Forum. The Work Area Directors conduct the principal defining work of the Forum, covering the published work shown on the previous pages, member-only study documents, test plans for new technologies. The work area contributors often participate in the work of other industry associations which facilitate cooperate dialogs and frequent liaisons.

### Architecture and Migration Work Area (A+M)

The Architecture and Migration Work Area defines the architecture of Broadband Forum's work. 2017/2018 focus: Building on the momentum of the NFV-enhanced architecture foundations defined by Issue 1, Issue 2 introduces SDN and greater management and will reflect work done in the Cloud CO project. This will increase the applicability of virtualization to the wider multi-service broadband network.

Work Area Directors: David Thorne, BT; David Allan, Ericsson

### Broadband User Services Work Area (BUS)

The Broadband User Services Work Area provides the broadband industry with technical specifications, implementation guides, reference implementations, test plans, and marketing white papers for the deployment, management, and consumption of services by the broadband end user. This Work Area represents the end user perspective when incorporating into the Broadband Forum architecture. The Work Area final has now User Services Platform (USP). The evolution of its flagship protocol, TR-069. Just ahead of this release will be the first USP Plugfest. BUS Work Area is working in conjunction with the Physical Layer Transmission Work Area to push forward the development of real metrics for Wi-Fi performance testing.

Work Area Directors: John Blackford, Arris, Jason Walls, QA Café

### Common YANG

A critical area of all the work areas in the forum is the development of software models, specifically, the development of both data and information models that accelerate the implementation of agile services. The YANG Models for FTTdp (TR-355) updates and many other new items are the focus of the group. The group continues to expand on the set of Common YANG models required for management of ultrafast broadband access networks based on copper and fiber technology. In particular, progress was made on managing multicast services, optical transceivers, statistics collection using IPFIX and copper line testing using SELT/MELT and loop diagnostics.

Work Area Director: Sven Ooghe, Nokia

# WORK AREAS

## **Fiber Access Networks Work Area (FAN)**

FAN defines the requirements for deploying Broadband Forum network architectures in fiber access technologies so as to accelerate deployments and ensuring interoperability. Along with the Physical Layer Transmission area is on both cost savings and acceleration of time to market. The successful FSAN/BBF XGS-PON/NG-PON2 interoperability test session on October 9-13, 2017 achieved the goal of driving technology maturity through multi-vendor testing, and reduction of OpEx and CapEx of fiber access deployment for service providers.

*Work Area Directors: Greg Bathrick, Calix Networks; Wei Lin, Huawei Technologies*

## **Fiber to the Distribution Point (FTTdp)**

Established common related technical specification for FTTdp to ensure maximal equipment and management interoperability. With several published documents, this work was largely completed in 2017 with remaining work transferring to other work areas.

*Work Area Directors: Christopher Croot, BT; Sven Ooghe, Nokia*

## **Physical Layer Transmission Work Area (PhyTx)**

PhyTx provides test plans, technical documentation, and marketing papers to enable multi-vendor interoperability in deployments for both access and in-premises networks. The publication of the members' IR-337 - Gfast Certification Test Plan was instrument to the success of the Gfast Certification program. The second phase of the program will address coax operation, 212 MHz operation. Other new projects include adding Long Reach VDSL2 (VDSL2-LR) tests and addressing use cases for extending fiber access over existing in-premises infrastructure.

*Work Area Director: Les Brown, Huawei Technologies*

## **Routing and Transport (R&T)**

R&T works to produce industry agreed specifications of the routing and transport network infrastructure for applications such as mobile backhaul/transport infrastructure, data center interconnect, video distribution etc. The group continues to work to transform transport and IP networks to efficiently support 5G and the innovative services. Other current work includes work to integrate Flexible Ethernet into IP/MPLS networks. This gives TDM-like characteristics to packet networks for performance and isolation needed for network slicing and deterministic transport, based on IETF DetNet and IEEE Time Sensitive Networking (TSN)

*Work Area Director: David Sinicrope, Ericsson*

## **Software Defined Networking and Network Functions Virtualization (SDN/NFV) Work Area**

This Work Area focuses on the introduction of SDN and NFV including migration and coexistence of physical and virtual elements, into the broadband network. Publication of the Network Enhanced Residential Gateway, the Virtual Business Gateway for SD-WAN, Fixed Access Network Sharing (FANS) and the formation of the Cloud Central Office (CloudCO) were key projects. The overriding CloudCO framework document was completed with around 25 contributors. 10 further CloudCO projects underway. Many are closely linked with the Open Broadband initiative. The FANS work provides the framework for the sharing of physical infrastructure between Virtual Network Operators.

*Work Area Directors: Christopher Croot, BT; George Dobrowski, Huawei Technologies*

## **Wireline-Wireless Convergence Work Area (5G-WWC)**

This Work Area addresses the increasing synergy between wireless and wired access technologies and networking functions. Activities examine scenarios where wireless access technologies play a role or mobile networking is involved in the wireline network. Study work on 5G is in full flow, with a focus on the integration model and deployment considerations with respect to existing networks. This will be used to assist both 3GPP and the Broadband Forum to develop normative specifications in the release 16 timeframe. Study work on network slicing continues as the group develops a deeper appreciation of the impact of this 5G-centric topic on fixed and transport networks.

*Work Area Directors: David Allan, Ericsson*



**A collaborative space** for integration, test & interoperability of open source, standards-based and vendor implementations

- An open lab for suppliers, operators to work with common hardware/software platforms
- SDN/NFV Industry Alliance and Broadband Forum: Open Broadband Asia Laboratory (Beijing, China)

**Fulfilling important industry requirements**

- Acceleration of go-to-market, go-to-production for large-scale, cloud-based services
- Open invite without undue financial, membership, proprietary, technical constraints



On May 2, 2017 the Broadband Forum and SDN/NFV Industry Alliance announced the signature of a Memorandum of Understanding to jointly Set up an Open Broadband Laboratory Asia and promote the development of network transformation and cloud evolution

**Two Open Broadband projects began in 2017**

- Open Broadband Starfish Project overview: Create a common provider interface & object schema for "user managed objects" that is implementable on both legacy WAN devices, and NFV devices.
- Open Broadband-Broadband Access Abstraction (BAA) is an open source project that specifies the Northbound Interfaces, Core Components and Southbound Adapter Interfaces for functions associated with the access network devices (e.g., configuration, reporting, alarms) that have been virtualized.

## INTEROP AND CERTIFICATION

Since its inception, the Forum had an objective to establish interoperability in the broadband marketplace.

**Interoperability** plugfests are an invaluable accelerator to product/service introduction and brings together key players to work on interoperability & testing.

**Certification** creates confidence, minimizes risks and reduces costs of provider testing. It accelerates time-to-revenue and is critical for developing choice of silicon and products.

The impact was well-demonstrated in 2017: June 13 - the first 6 Gfast certified products were announced. At time of writing the number has jumped to 42 certified-interoperable products and companies. A recent survey indicated that 33 services providers have or are planning to deploy Gfast worldwide. Marketing by the Gfast Council Group significantly raised the profile for all stakeholders.

**Broadband Forum Certification Program**  
accelerating deployment of new broadband technologies

**BBF.009**  
Managing beyond the box

**BBF.247**  
CONVERGENCE

**Gfast CERTIFIED**

**Certification**  
is conducted by these  
BBF Approved Labs

**LABASIA**  
Your digital lab

**Telebyte**

**iol**  
World's first Open Source  
Interoperability  
Laboratory

Member logos include: Activated, ARRIS, ADTRAN, Aerohive, Alcatel-Lucent, Broadband, CISCO, Colix, D-link, greenWAVE, HUAWEI, intel, SERCOM, ZTE, SBBNCOM, SERCOM, TECOM, ZTE, ADTRAN, ARRIS, Broadband, Colix, EXFO, METASIA, NOKIA, SCKIPID, technicolor, VIAYI.



# INDUSTRY EVENTS

It is not often that a pre-conference event steals the headlines



The first of two large multi-track, full-day events were organized in the last quarter of 2017. The events were “produced” by Bernd Hesse of Calix with the help of the two BBF Marketing Councils, around 50 member and non-members speakers. Almost 500 attendees participated as the industry shared its knowledge of new and upcoming access technologies at these two pre-conference events.

In 2018, BASE continues as an expanded event covering the breadth of the Forum’s range of work. In addition to conference speaking around the world, the leaders of key Forum projects will be educating the market in regular BBF webinars. See [broadband-forum.org/events-webinars](http://broadband-forum.org/events-webinars).



## MARKETING COUNCILS

2017 saw the formation of two access technology-related councils. The Gfast council, formed and led during 2017 by Michael Weissman of Sckipio, created our new model for positioning, messaging, PR, social media, events, marketing deliverables, wall charts, web content, conference presentations, etc. The two councils below collaborated to create the BASE events above. Additional councils such as the Optical Infrastructure Council are following in these footsteps. Others are planned for 2018, including the Optical Infrastructure Council led by Kevin Bourg of Corning. Members are strongly recommended to participate as we use the same approach across many project areas.

The Gfast Council is currently led by Francisco Moreno of ActionTec. The NG-PON2 council was formed and is led by Bernd Hesse of Calix.



The Gfast Council defines the marketing activities supporting the Gfast technology, Gfast use cases and how Gfast fits within the Broadband Forum’s umbrella of ultrafast broadband access technologies. The Gfast Council is open to all BBF members and adheres to all BBF policies and procedures.



The NG-PON2 Council defines the marketing activities supporting the NG-PON2 technology, NG-PON2 use cases and how NG-PON2 fits within the Broadband Forum’s umbrella of ultrafast broadband access technologies. The NG-PON2 Council is open to all BBF members and adheres to all BBF policies and procedures.

# RECOGNIZING MEMBER CONTRIBUTIONS

The BBF recognizes the outstanding contributions of those who have shaped the growth of Broadband, worldwide

## Distinguished Fellow Award

The Distinguished Fellow title is bestowed by the Broadband Forum to exceptional individuals who have over time provided a major influence on the direction and success of broadband development

### 2017 Recipients:

Barbara Stark, of AT&T  
Michael Shaffer, of Nokia

## Circle of Excellence

The Broadband Forum recognizes the exceptional contributions of its members through the "Circle of Excellence" award, which is awarded at our annual meetings.

### 2017 Recipients:

Joey Boyd, of ADTRAN  
David Minodier, of Orange

## Outstanding Contributors

Once a year, at the annual meeting, the Outstanding Contributor awards are given to individuals who, during the previous year, went above and beyond the call of duty within the Forum work areas.

### 2017 Recipients:

Guiu Fabregas, of Nokia  
Marta Seda, of Calix  
Denis Khotimsky, of Verizon  
Ron Insler, of RAD  
Marcos Martinez, of Marvell

visit <https://www.broadband-forum.org/contributors> for information on BBF member recognition

## ACCELERATING BBF WORK



The Chairman's letter describes the increase in participation as extraordinary. However, it's not just the numbers participating but the way in which Forum members are working together and the new tools in place that translates activity into productivity.

The Forum's transition to a new set of interactive and integrated set tools (Atlassian tools (JIRA, Confluence, BitBucket and several others) means all users can work can interactively in a way that was not possible with previous static-systems. This is complemented by faster development processes from updates to our code repository and development of data models, to code-sprints in our Open Broadband groups.

The ability of 25 members collaborating to produce one of largest specifications was done in record time. Our Gfast Interop and Certification was done years faster than previously. Just two examples. Our use of JIRA in developing and commenting on new work in real-time has sustained this breathless pace.

Since January 2017, more than four times the number of members have signed up to what has become in effect a 24/7 online meeting. To join them, visit <https://wiki.broadband-forum.org> for member self sign-up giving you access to all the tools.

This is very much a work in progress as we are constantly evolving and developing new ways of working. However, some fundamentals such of the intensity of the technical contributions, the integrity of creating large-scale opportunities based on standardized approaches remain immutable.

Not a member? Then turn to the next page to find out more .

# PARTICIPATING ORGANIZATIONS

2017 saw an increase in membership numbers and participation. In addition, to the companies listed below is the new category of personal membership.

Also, the Open Broadband projects involve non-members companies and industry organizations.

5V Technologies	D-Link	KPN	Sparnex Instruments
A1	DASAN Zhone Solutions	LAN	Spirent
Actiontec	dBm069	Layer 123	Sumitomo Electric Industries
Adtran	Deutsche Telekom	Lea Networks	superson
ADVA Optical Networking	EANTC	MaxLinear	Swisscom
ADB Global	Econet	Metanoia	TDC
Aethra Telecommunications	Eircom	Methode Electronics	Technicolor
Agama Technologies	Ericsson	Microsemi	Tecnia
Altice Labs	ETRI	MOCA	Tecom
Arcadyan	EXFO	M2T	Teldat
Arris	Fraunhofer Institute	National Broadband Network	Telebyte
Askey	Fastweb	National Media and	Telecom Italia
ASSIA	FiberHome	Infocommunications Authority	Telefonica
AT&T	FIT	NECA	Telekom Malaysia
AVM	Foxconn	NEC	Telekom Slovenije
Axiros	Friendly Technologies	NetComm Wireless	Telenet
Bell Canada	Fujitsu Limited	Nokia	Telenor
Bifrost Communications	Gemtek	NTT	Telkom Indonesia
Botswana Fibre Networks Ltd.	Genesis Technical Systems	Observe Telecom	Telkom Zambia
BT	Go Foton	Octoscope	Tellabs
Broadband Communications	Greenlee	Oliver Solutions	Telstra
Chamber	Greenwave Systems	OPT New Caledonia	Telus
Broadcom Ltd.	Hisense Broadband	Orange	Tessares
CableLabs	HiSilicon	Outsys	Tibit Communications
Calix	Huawei Technologies	PIC Advanced	Tilgin
Cambridge Industries Group	Icoteria	Point Topic	TNO
Casa Systems	Inango Systems	Proximus	Triductor
Century Link	InCoax	QA Cafe	TCD
Charter Communications	Incognito Software	Qualcomm	Ubilinx Technology, Inc.
CAICT	Industrial Technology	RAD	UNH IOL
China Mobile Ltd.	Research Institute	Radisys Corporation	Verizon
China Telecom	Infinera	Sagemcom	Viavi Solutions
Chunghwa Telecom	Informa	Samsung	VMware
China Unicom	Institute for Information Industry	Sasktel	Vodafone Group Services
Ciena	Intec	Sckipio	Volt Server
Cisco	Intel	Sercomm	Westernmo
Commscope	Iphotonix	Shenzhen Gongjin Electronics	Works Systems (Tianjin) Co., Ltd.
Continental Automated	Jabil	Sigma Designs	Zinwell
Buildings Association (CABA)	Juniper Networks	SK Telecom	ZTE
Corning	Keymile	Sky	Zyxel
Cyta	Kurth Electronics	Softbank	

# BROADBAND FORUM MEMBERSHIP

The BBF recognizes the outstanding contributions of those who have shaped the growth of Broadband, worldwide

<b>PRINCIPAL MEMBER</b> Shape the industry   create massive markets   collaborate with industry leaders on new projects   join and form new ground-breaking initiatives	<b>AUDITING MEMBER</b> Track new developments ahead of the market   access the rapidly growing library of almost 19,000 contributions   access more than 2,000 collaborative pages   make informed decisions	<b>ASSOCIATE MEMBER</b> Participate   collaborate with 1,400+ active participants   network with industry leaders	<b>START-UP MEMBER</b> Jump-start your industry visibility   develop relationships   partner with industry colleagues and clients
			<b>PERSONAL MEMBER</b> Personal   professional   academia

visit <https://www.broadband-forum.org/membership>

## Details of Membership Level Privileges, Benefits and Requirements

Benefits for each membership level

Principal   Auditing   Associate

Benefits for each membership level	Principal	Auditing	Associate
<ul style="list-style-type: none"> <li>Welcome to attend working sessions (all sessions apart from the Plenary) of Broadband Forum Meetings.</li> <li>Unlimited access to the BBF collaborative Wiki, JIRA and Bitbucket code repository.</li> <li>Collaborate with industry peers Working Committee Meetings of the Broadband Forum.</li> <li>Can submit and comment on Technical Committee contributions.</li> <li>Eligible for Broadband Forum Working Committee Leadership Positions. (e.g. Work Area Director, Project Stream Leader, Editor)</li> </ul>	YES	NO	YES
<ul style="list-style-type: none"> <li>Eligible to provide voting representatives to work on Broadband Forum Committees.</li> <li>Eligible to run for Broadband Forum Board of Director and Committee elected positions.</li> <li>Shape and influence the industry by voting on all Broadband Forum issues, including approval of Technical specifications and Board of Directors Elections</li> </ul>	YES	NO	NO
<ul style="list-style-type: none"> <li><b>SERVICE PROVIDERS:</b> Participation in the Service Provider Action Council (SPAC) meetings, projects and calls</li> <li><b>SYSTEM VENDORS:</b> Participate in BBF CERTIFICATION PROGRAMS to meet RFP product compliance, increase recognition and value of BBF Certification on the BBF public website and marketing activities</li> </ul>	YES	YES	NO
<ul style="list-style-type: none"> <li>Welcome to attend all sessions of Annual, Plenary or Special Meeting of the Broadband Forum</li> <li>Subscribe to all Broadband Forum unrestricted email mailing lists</li> <li>Unlimited Access to all member-only working and study documents, Wiki pages, contributions, and meeting minutes of the BBF</li> <li>System Vendors: Eligible to attend Plugfest with product</li> <li>Eligible to provide non-voting representatives to work on Broadband Forum Board and Special Committees. Use of BBF Logo on company marketing materials</li> <li>Recognition of company membership on BBF public website</li> <li>Provide input to BBF Marketing (Councils and Marketing reports)</li> </ul>	YES	YES	YES

# MEMBERSHIP CHOICES

**Principal Membership:** Simply put, anyone serious about leadership at this innovative time in the Broadband community should be a principal member to help steer the industry and accelerate their own commercial plans. For service providers it affords the opportunity to keep the market focused on practical solutions that will drive end-customer and wholesale revenues. Principal membership offers the most value and avoids the risk of missing out on new initiatives that can change the market. The question you should ask is not “Why should we join?” but “Why have we NOT joined?”

**Small Company Principal Membership** represents the best value in the industry for such an influential role. This level of membership is geared for growing companies or companies that focus on smaller niche markets.

**Startup Principal Membership.** This membership level is geared for startup companies that are bringing new hardware, components, software or services to market. Goal: encourage member participation for market entrants and provide the opportunity for innovative contributions and direct communication with potential clients.

**Auditing Membership** is a great option for (i) Local and regional Internet service providers wanting to use the Broadband Forum work to enable new growth opportunities but have limited resources to make contributions (ii) companies independent guidance on best practices for implementation of SDN, NFV, G.fast, 5G, IoT, software models and interoperability in Broadband **networks** (iii) consumer electronics companies, OTT providers, who wish to track adjacent technology and business areas but do not have the available resources to actively contribute.

**Small Auditing Membership** has been added for small auditing members with the same benefits.

**Associate Membership** is open to government organizations, educational institutions and non-profit industry associations. It provides a very affordable way to fully participate and use the independent work and best practices documents of the Forum to set implementation strategies based on the industry's collective best minds.

**Individual Membership** provides a way for individual consultants, researchers, independent industry specialists and software developers to connect to the leading edge of the market. Individual membership is subject to approval by the BBF CEO.

## Details of Membership Level Privileges, Benefits and Requirements

Membership level	Requirements	Annual Subscriptions
Principal Membership	<ul style="list-style-type: none"> <li>No company conditions</li> </ul>	\$16,350
Small Principal Member	<ul style="list-style-type: none"> <li>Less than \$100 m revenue</li> </ul>	\$6,450
Startup Member	<ul style="list-style-type: none"> <li>Membership Period max 2 years only</li> <li>Pre-revenue, founded 18 months or less, or &lt;\$5m revenue per year</li> <li>Confirmation letter from Company CEO</li> <li>Approval at the discretion of BBF CEO. Please contact info@broadband-forum.org</li> </ul>	Subscription on application
Auditing Member	<ul style="list-style-type: none"> <li>No company conditions</li> </ul>	\$ 6,750
Small Auditing Member	<ul style="list-style-type: none"> <li>Less than \$100 m revenue</li> </ul>	\$ 4,850
Associate Member	<ul style="list-style-type: none"> <li>Not-for-profit Educational organizations, Industry Associations</li> </ul>	\$1,500
Individual Member	<ul style="list-style-type: none"> <li>Independent individual membership (e.g. industry consultant, researcher)</li> <li>May not be proxy or surrogate for company membership by affiliated company</li> <li>May not pass member-only information to third parties</li> <li>Approval at the discretion of BBF CEO. Please contact rheier@broadband-forum.org</li> </ul>	Subscription on application

# FINANCIAL REPORT

Auditors John Waddell & Co, Certified Public Accountants, have audited the financial statements of the Broadband Forum. The following gives an overview over the key financial figures and indicators of the Forum.

## Statement of Financial Position December 31, 2017 (With Comparative Totals for December 31, 2016)

	ASSETS	
	(Unaudited) 2017	(Audited) 2016
Cash	\$ 495,467	\$ 547,760
Accounts receivable	1,450	12,408
Contribution receivable	-	6,498
Accrued interest receivable	-	4,389
Prepaid expenses	45,955	37,748
Website, net of accumulated amortization	5,491	7,058
Investment in marketable securities	1,358,306	1,526,494
	<u>\$ 1,906,669</u>	<u>\$ 2,142,355</u>
LIABILITIES AND NET ASSETS		
Liabilities		
Accounts payable	\$ 288,766	\$ 99,595
Deferred membership dues	401,600	554,150
	<u>690,366</u>	<u>653,745</u>
Total Liabilities		
Net Assets		
Temporarily restricted	16,083	16,498
Unrestricted	1,200,220	1,472,112
	<u>\$ 1,906,669</u>	<u>\$ 2,142,355</u>

# FINANCIAL REPORT

	Unrestricted	Temporarily Restricted	(Unaudited) 2017 Total	(Audited) 2016 Total
<b>Revenue</b>				
Membership dues	\$ 1,306,873	\$ -	\$ 1,306,873	\$ 1,211,250
Meeting fees	206,730	-	206,730	211,180
Sponsorship fees	60,500	-	60,500	77,110
Interest and investment income	89,419	-	89,419	52,123
Contribution	-	-	-	16,498
Other income	3,000	-	3,000	2,546
Net assets released from restriction	415	(415)	-	-
<b>Total Revenue</b>	<b>1,666,937</b>	<b>(415)</b>	<b>1,666,522</b>	<b>1,570,707</b>
<b>Expenses</b>				
Meetings	593,996	-	593,996	608,091
Tradeshows	28,699	-	28,699	44,742
Management fees	591,246	-	591,246	677,216
Marketing and public relations	364,261	-	364,261	339,594
General and administration	178,836	-	178,836	107,509
Strategic initiatives	181,337	-	181,337	171,610
Miscellaneous/contingency	454	-	454	4,540
<b>Total Expenses</b>	<b>1,938,829</b>	<b>-</b>	<b>1,938,829</b>	<b>1,953,302</b>
<b>Change in Net Assets</b>	<b>(271,892)</b>	<b>(415)</b>	<b>(272,307)</b>	<b>(382,595)</b>
<b>Net Assets</b>				
Beginning of Year	1,472,112	16,498	1,488,610	1,871,205
End of Year	\$ 1,200,220	\$ 16,083	\$ 1,216,303	\$ 1,488,610

The logo for Open Broadband, with "Open" in a large, dark blue, sans-serif font above "Broadband" in a smaller, grey, sans-serif font. A large, stylized graphic of a curved, multi-lined arrow points from the top left towards the bottom right, partially overlapping the text.

## BBF Team

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## Links and Contacts

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Member sites and sign-up <https://wiki.broadband-forum.org>  
Public site [www.broadband-forum.org](http://www.broadband-forum.org)  
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