

Shaping the Future of Broadband

WELCOME TO THE BROADBAND FORUM SPRING NEWSLETTER

Your quarterly resource for updates on recent activities and our most critical work and focus areas.

A welcome from our leadership

Our Spring Member Meeting saw our biggest attendance in more than 15 years, drawing 158 attendees to Mainz, Germany. We have enjoyed a very productive meeting, and continue to build on the success of 2023, with 16 new work area projects started and two new Open Broadband projects launched since our last meeting.

In Mainz, the home to the invention of Gutenberg's printing press and no stranger to ground-breaking tech innovation, we opened the meeting with discussions on the latest significant breakthrough in tech history. Bringing together technology innovators from across the



industry, our Town Hall Innovation Series explored the growing role of Artificial Intelligence (AI) and Machine Learning (ML) in broadband networks. The BASe Technical and USP Summits took place in tandem with our member meeting and was highly attended with a host of engaging plenary sessions, roundtables, and video demonstrations. The three events amassed a total of 243 registered attendees across five days.

Thank you to all of our work area directors, project stream leaders, editors, and contributors for their continuous dedication in building universally adopted open standards and open-source software. Talking with many of the attendees, there was real energy and enthusiasm surrounding the ongoing work and direction of the Broadband Forum.

We also recognized those individuals whose service and leadership are significantly helping drive our vision of intelligent, services-led networks that prioritize user experience. Congratulations to our Distinguished Fellow, Circle of Excellence, and Outstanding Contributor award winners.

We look forward to seeing you again in Incheon, South Korea, on June 17-20.

-Craig Thomas, CEO, Broadband Forum

Thank you to our Meeting Sponsor!

Manuel Paul, Squad Lead Network Convergence at Deutsche Telekom and President at Broadband Forum delivered a keynote presentation highlighting the importance of personalized and context-aware services and networks that adapt to customers' future needs.

Paul talked about the need for standardization in the industry to respond to market demands of a fast-moving technical world, advised that agility and speed should not come at the cost of quality, and vocalized the importance of deployable standards. Collaboration between Standards Development Organizations was underscored as a key factor in achieving this and striking the perfect synergy between open-source software and open standards. He also talked about Deutsche Telekom's focus to enable a better digital life for customers, the



broadband forum

benefits of increasingly virtualized networks and cloud-based services, as well as the role that disaggregation is playing in making this all possible.

"Reliability and great customer experience is key, and the DT brand has connotations of great customer trust," Paul stated. "Our customer complaints have shrunk by 90% over the past ten years and we remain committed in turning our customers into our fans."

On helping develop standards within Broadband Forum, Paul said: "It is an honor to collaborate with this esteemed community of industry leaders and experts. On behalf of Deutsche Telekom, thank you for the opportunity to play our part."

Work Area Updates

For the full list of all Technical Reports published by Broadband Forum, <u>click here</u>. Please feel free to share this information with your colleagues so they are engaged with and aware of the developments of this work. For additional insight and to get involved, <u>sign up for access to</u> <u>Broadband Forum tools</u> and access your account using your company email address.



ATA rounds off successful quarter with IPv6 security project and new open broadband projects launched

.....

Target: The Access & Transport Architecture (ATA) Work Area maintains primary architectural work of the Broadband Forum. The group delivers scalable, dynamic, and flexible architectures to support highly resilient connectivity for the next-generation of responsive services and applications. ATA's focus includes specifying frameworks and real-time tools to deliver predictive connectivity and service performance.

Progress: The group's work on quality and performance measurements continues with discussions on service metrics, QED in multicast environments, and QED measurement formats.

The publication of TR-390 Issue 2 Amendment 1 has laid the foundations for performance measurement using STAMP in access networks. This has helped enable a new Open Broadband project: OB-STAMP for improved Quality of Experience.

The group has made considerable progress on the architecture of 'Subscriber Session Steering' WT-474. Alongside this, the Open Broadband Subscriber Session Steering (OB-STEER) project has been proposed for automation delivery, greater efficiency, and traffic optimization.

'IP Capacity Metrics and Measurement' WT-471 Issue 4 was sent to Straw Ballot, 'Control and User Plane Separation for a disaggregated BNG' WT-459 Issue 3 has completed Straw Ballot resolution, and 'Wi-Fi Authentication' WT-497 has proceeded to Final Ballot.

A new project on 'Security Considerations for IPv6 Broadband Networks' has been approved, with a new project on 'Multicast delegation for Live TV streaming' discussed. The latter would enable video providers to leverage network multicast capabilities and assure an end-to-end digital supply chain.

For more information on ATA Work Area's ongoing work, visit: https://wiki.broadband-



forum.org/display/BBF/Access+and+Transport+Architecture.



'oadband

Smart home activities grow in BUS; latest updates of TR-181 and TR-398 published

Target: Explore the necessary work for delivering an operator-grade smart home and improving the subscriber experience.

Outcome: Work continued in the Broadband User Services (BUS) Work Area on USP 1.4, TR-181 Device: 2.18 and WT-492, with discussions on the next level of support for containerized applications in broadband CPE taking place.

The group is aiming for USP 1.4 to go into Straw Ballot review in early May 2024. This builds on the progress of USP 1.3 and TR-181 Device: 2.16 in laying the foundations for applicationenabled services using broadband CPE and helps deliver an operator-grade smart home ecosystem. A USP 1.3 Test Plan is planned for publication over the Summer.

Developed jointly with the WWC Work Area for updates to 5G interfaces and remote management, TR-181 Device: 2.17 was published in January 2024. Smart home activities continue to grow within BUS, with more discussions on Matter support in TR-181 data models, using USP as cloud support for Matter, and bridging between different IoT protocols and architectures. As part of this, the group will work with fellow Standards Development Organization Wireless Broadband Association.

The group also published the third issue of the widely used TR-398 Wi-Fi performance Test Plan, with Issue 4 in progress.

The Smart Home Project Stream is designed to provide the tools to empower operators to assist in the deployment, management, and interoperability of the consumer smart home. This will be achieved by leveraging USP (TR-369)/TR-181, as well as introducing requirements and test plans for the network and security capabilities of the smart home devices deployed in subscriber networks. Contact the Project Stream Leads, Jason Walls and Tim Spets, to get involved. Join the smart-home slack channel and <u>smarthome@broadbandforum.org</u> mailing list.

The USP Summit 2024, hosted in tandem with the Spring Member Meeting, was successful and promoted cross-industry collaboration with detailed discussions on the insights, challenges, and solutions of TR-369 (USP).

Take look at the BUS Work https://wiki.broadbandа Area's latest work: forum.org/display/BBF/Broadband+User+Services.

Common YANG's latest work shaping the future of NETCONF/YANG-managed



access networks

Target: Specify YANG modules that are applicable to multiple work areas, provide support to those same work areas for their specific YANG projects, and maintain YANG Best Current Practices, processes, procedures, and tools.

Progress: The Common YANG Work Area is playing a supporting role for the SDN/NFV and FAN Work Areas, with a view that YANG models will be incubated in a series of ongoing projects. We continue to review new functionalities targeting future amendments of TR-383.

Outcomes: Published Amendment 7 of TR-383 to cover the required enhancements to support



WT-477; published Amendment 2 of OD-360; progressed towards the review of the initial YANG model for Multimedia over Coax Alliance (MoCA) access nodes; accepted a new project addressing the scale of managing large access network elements.

Amendment 7 of the group's flagship project TR-383 'Common YANG Modules for Access Networks' was published in December 2023. This publication sits at the heart of Common YANG's output and allows copper- and fiber-based access nodes to be managed through NETCONF/YANG.

Moving forward, the scope of Amendment 8 has been agreed upon, including support for ITU-T Ethernet OAM, IP hosts, Subscriber identification, and Internet Protocol Flow Information Export (IPFIX). The work is planned to move to Straw Ballot resolution at the Summer Member Meeting.

For the long-term maintenance of YANG models, Amendment 2 of OD-360 'BBF YANG Best Current Practices' was published in January 2024. Beyond that, several new and improved guidelines have been approved. These Best Practices are being used in automated tooling to improve quality and harmonize the YANG modules published by the Broadband Forum.

The group discussed the architecture modelling of the Multimedia over Coax Alliance (MoCA) Access based architecture, as part of WT-496 'YANG Modules for MoCA Access 2.5 Interface'. An initial YANG model has been brought forward and is planned to go through a formal review. With this model, BBF YANG management support is extended to nodes offering triple play services over existing coax cables within people's homes.

Over the past couple of meetings, the Work Area has made tremendous progress on a YANG model for VoIP. With this model, it has extended BBF YANG management support to nodes offering traditional POTS voice services over a packet-based network. Its goal is to have a first published version towards the end of this year.

The Work Area has played a key supportive role for other work areas aiming to develop and publish YANG models. To that end, sessions were held with the SDN/NFV and FAN Work Areas, reviewing items of common interest. A new project addressing the management of large access network elements at scale, which is key for service providers, was discussed. An updated project proposal incorporating feedback from the members will be discussed at a later date. For an overview of the Common YANG Work Area's current activities, please visit: https://wiki.broadband-forum.org/display/BBF/Common+YANG+Work+Area.

FAN collaborates with other Work Areas to progress new standards; officially launches sustainability project



roadband

Target: The Fiber Access Networks (FAN) Work Area specifies and maintains PON architecture and nodal requirements, PON abstraction and mobile backhaul requirements. It is also responsible for PON test suites related to PON conformance and interoperability, and

compliance test plans related to XGS-PON, NG-PON2, 25GS, 50G-PON, and Physical Medium Dependent (PMD)/Transmission Convergence (TC) Layer. Lastly, it is responsible for PON YANG data model specifications.

In Progress:

WT-309 Issue 3 'PON TC Layer Test Plan' and WT-385 Issue 3 'PON YANG' are close to being finalized.





PON testing with DTP-247 Issue 4 Corrigendum 1 'ONU Conformance Test Plan' is being prepared for Final Ballot and DTP-255 Issue 2 'OLT-ONU Interoperability Test Plan' is going to Straw Ballot.

The FAN, BUS, and SDN/NFV Work Areas have agreed on a new project for greater sustainability. The project is an Energy Power Saving Requirements, Test Plan, and Data Model. This will ensure interoperable and predictable power saving implementations.

FAN also took part in joint sessions with the SDN/NFV and Common YANG Work Areas on SDN interfaces and vOMCI.

Together with Common YANG, the Work Area continues to work on PON management with WT-505 'ONU Management at Scale', WT-489 'ONU Authentication', and WT-512 'EAP-OMCI Method'. WT-512 facilitates the introduction of secure mutual authentication.

For more on the FAN Work Area's ongoing work, please see: <u>https://wiki.broadband-</u> forum.org/display/BBF/2023+Q4+Meeting+-+Fiber+Access+Networks+Meeting+Minutes

PHYtx Work Area starts the third issue of TR-301 and continues efforts of the MoCA Access[™] Performance Test Plan



Target: To enable multi-vendor interoperability in deployments for both access and in-premises networks.

Progress: TR-301 Issue 3: "Architecture and Requirements for Fiber to the Distribution Point" was approved with architecture

and requirements for coaxial based technology and P2MP scenarios. The PHYtx Work Area continued the development of the WT-500 "MoCA Access Performance Test Plan."

During this meeting, the PHYtx Work Area continued to develop WT-500 "MoCA Access Performance Test Plan" and aims to go to Straw Ballot by the Summer Member Meeting. MoCA Access is one of the technologies that can be used for Fiber to the distribution point (FTTdp) deployments as described in <u>TR-419i2</u>. The group also discussed the US and EU coaxial network attenuation examples and will begin a marketing document.

Amendment 3 to TR-301i2 - which is adding bulk data collection using IPFIX - has completed Straw Ballot. Straw Ballot review can be started after the completion of the next revision of TR-413 (SDN/NFV) and TR-383 (Common YANG).

For further insight into the current work of the Physical Layer Transmission Work Area, visit: <u>https://wiki.broadband-forum.org/display/BBF/Physical+Layer+Transmission</u>.

Two key documents on AIM and disaggregation published, with more specifications close to fruition for SDN/NFV





adband

Target: The SDN/NFV Work Area focuses on the introduction of Software Defined Networking (SDN) and Network Functions Virtualization (NFV) in conjunction with general purpose hardware to create the basis for cloud-based, edge, and access networks. Building on this framework, the Work Area addresses migration and coexistence of physical and virtual elements, into the broadband network, define interfaces, test cases, use cases and scenarios, reference implementations, and automation.

Progress: The main focus is CloudCO interfaces, disaggregated OLT, and Automated Intelligence Management and Data Collection.

Outcomes: TR-477 'Cloud CO Enhancement – Access Node Functional Disaggregation' and TR-486 'Interfaces for AIM' were published. WT-386 Issue 2 'Fixed Access Network Sharing' has progressed to Final Ballot.

Work continued on WT-403 Amendment 1 'PON Abstraction Interface for Time-Critical Applications', WT-384 Issue 2 'CloudCO 2.0', WT-436 Issue 2 'AIM Framework and Architecture', and WT-508 'Broadband Network Data Collection (BNDC)'.

A proposal was approved to restructure the chapter 5 on Disaggregation of WT-384 Issue 2 'Cloud Central Office Reference Architectural Framework'. There was also a multi-company proposal to restructure WT-413 Issue 2 'SDN Management and Control Interfaces for CloudCO Network Functions', where there are still gaps on Edge element and on Disaggregated BNG before going to Straw Ballot.

On the Artificial Intelligence and automation fronts, a proposal was submitted to enhance the entire document on architectural framework with multiple revisions and multiple proposals on architecture for data collection.

The Tiger Team on CloudCO interfaces (WT-411i2/WT-454i2) continues its activities on topology and network resource management for inventory by deciding to use RFC8345 for topology and the activities are ongoing in IETF IVY WG for resource management.

On Smart SD-WAN, there was a proposal submitted to review the architecture reported in WT-495 and to align it with CloudCO architecture.

More information about the SDN/NFV Work Area can be found at: <u>https://wiki.broadband-forum.org/display/BBF/SDN+and+NFV</u>.

WWC continues



Multi-tenant FWA efforts and Phase 18.1 work, IMS for 5G-RG and WWC CUPS specifications published

Target: Deliver more value with deployment options for integrated, wireline, and mobile operators and suppliers. Optimization of the Total Cost of Ownership by consolidating network, common control plane, and streamlined backend by a comprehensive, well-specified,

deployed Wireless-Wireline-Convergence architecture and functions to deliver broadband services with the 5G Core.

Progress: Work is progressing in three active Project Streams: 5G, Multi-tenant FWA, and IMS for 5G-RG.

Outcomes: New set of capabilities and enhancements, subsuming more of the capabilities of the 5G system, with specifications and marketing documents in progress. Ongoing work in the WWC Work Area focuses on bringing more value to 5G for wireline and provide operators with



increased flexibility, revenue potential, and deployment options. The goal is to increase the service capabilities of the network to allow operators to fully leverage convergence while at the same time giving them more paths to transition to a single 5G Core.

The Work Area continues to incorporate capabilities from the 5G Toolkit into specifications to realize a variety of use cases. These range across a broad spectrum and include topics such as hybrid access, enhanced work from home, and convergence of voice with the mobile system. This work will allow operators to provide a uniform experience to their customers irrespective of the access or appliance they are using, supported by a common and streamlined back office and control plane.

The Phase 18.1 work (in conjunction with 3GPP Release 18) includes reliability of AGF CUPS, hybrid access, network data analytics, and support for devices behind a 5G-RG. The Work Area has progressed two key documents with WT-456 Issue 3 (AGF Functional Requirements) and WT-470 Issue 3 (5G Wireless Wireline Convergence Architecture). The documents expand the deployment options for 5G WWC. TR-458 Issue 1 Corrigendum 1 (CUPS for 5G Wireless Wireline Convergence), has been published and this addresses a key missing information element, while WT-458 Issue 2 is starting with subjects such as SGRP.

The IMS for 5G-RG Project Stream addresses 5G-RG IMS-based voice support, with work on the architecture and a profile for residential voice. The work area made progress identifying related CPE device management requirements to be specified in TR-124 and the data model extensions for TR-181. This is based on TR-493 (IMS for 5G-RG Architecture) and TR-494 (IMS for 5G-RG Residential Voice Requirements) that have recently been published, marking a major milestone. These releases are key piece of work enables converging legacy voice services onto the 5G system and complements the WWC Phase 16.3.

Work progresses extending 5G Fixed Wireless Access to serve multi-tenant units (MTUs) with gigabit connectivity. During this meeting, the group analyzed three key architectural options for millimeter wave FWA for delivery inside a MTU for WT-507 'FWA delivery inside an MDU/MTU'. The document addresses scenarios and gaps identified during the study phase, leading to new guidelines and a standardized solution for the industry – an exciting opportunity for BBF members to join and contribute to this new work. We encourage service providers to provide use cases and deployment scenarios in order to prioritize the project roadmap.

The Work Area has progressed accompanying marketing work, including on the development of two marketing documents - (MD-470 The Value of WWC) and (MD-506 5G Hybrid Access). The group plans a marketing campaign for Multi-tenant FWA. WWC is also reviewing use cases for this year's CloudCO 2024 demo and has called for interested parties to join with their 5G Core Network, AGF, and 5G-RG components.

Along with the BUS Work Area, considerable updates were made to the cellular interface data model to support 5G fixed-wireless gateways.

Broadband Forum has made the convergence of broadband access with the 5G core a reality, is enriching the industry with value-added features of the 5G system, and continuing its productive cooperation with 3GPP.

For more on the WWC Work Area, please see: <u>https://wiki.broadband-forum.org/display/BBF/Wireless-Wireline+Convergence</u>.





adband

OB-CAS project to stimulate open innovation for the broadband industry; calls for involvement of application providers in data analytics and network automation software

The OB-CloudCO Application Software Development Kit (OB-CAS) project is set to create a network management application ecosystem for the broadband industry. The project will develop an open platform software environment to foster open innovation. Access to a broader pool of expertise enables ISPs to select fit-for-purpose applications from a community of independent software vendors. This allows ideas to be developed faster and ensures faster time-to-market of new products or services. Software application providers will be able to integrate their cloud application running in a CloudCO environment.

As networks grow in complexity, automation is key for ISPs to scale and operate. ISPs need to be able to operate their networks in an efficient way. Reactive and pro-active monitoring play a key role for improved maintenance and utilization of the network. Use cases range from service and network optimization, trend analysis, pro-active anomaly detection, network planning, and root cause analysis. Depending on the use case, the data analysis - with optional support from AI - and potential action(s) triggered by the result of the analysis can enable closed loop network automation, as described in the Automated Intelligent Management (AIM) specifications suite (TR-436 and TR-486).

The project team will initially select from existing open-source APIs, with applications accessing resources and (telemetry) data through these APIs. A sandbox environment will be created consisting of an App SDK, network device simulators and an access domain controller platform that leverages the OB-BAA reference implementation.

Management/ data analysis software application providers are invited to join the project to help shape the API requirements and test the SDK to see how their applications can operate in a CloudCO environment.

To learn more about the OB-CAS project's ongoing work, please see: <u>https://wiki.broadband-forum.org/display/OBCAS/OB-CAS+Home</u>

The OB-STAMP project launches - a gamechanger for network monitoring

The OB-STAMP (Open Broadband -



Simple Two-Way Active Measurement Protocol) tool aims to reduce the cost and time of deploying and implementing infrastructure for measuring network latency in service providers' networks. Broadband Forum standards, including Quality of Experience Delivered (QED) and User Services Platform (USP), will play a key part.

OB-STAMP is providing an easy-to-deploy component that simplifies network performance data generation, collection, and analysis. This data is crucial for training and operating AI deep learning tools, which are key enablers of the Automated Intelligence Management (AIM) framework. The project allows service providers to proactively monitor their networks to avoid network failures.



The open-source project is developing a STAMP Sender and Reflector that will be fully compatible with RFC 8762 and its associated extensions, to be installed on Customer Premises Equipment (CPE).

The overarching aim of the project is to develop a component outlined in the TR-390.2 document, enabling greater performance measurement between the customer's equipment and the IP Edge. The TR-390.2 Amendment 1 document also outlines the feasibility of using the STAMP protocol to record performance measurements in the subscriber home network.

To learn more about the OB-STAMP project's ongoing work, please see: https://wiki.broadband-forum.org/display/OBSTAMP/OB-STAMP+Home



OB-USP-Agent closes in on Heron release; will help ISPs roll out value-added services

The OB-USP-Agent (OBUSPA) group is putting

the final touches on Release 8 (Heron), which is focused on implementing the USP Services Architecture functionality introduced in the USP version 1.3 and TR-181 Device: 2.16 specifications.

The Heron release helps ISPs offer differentiated value-added services at a faster pace, allowing individual components of the network to be upgraded without the need to upgrade the whole firmware. These new features within the Heron release will ensure OBUSPA is a key component in open-source middleware solutions (e.g., prpIOS and RDK) as it enables the decentralization of a device's data model into USP-enabled containerized applications.

Integration of the Heron release is expected to be completed as part of the prpIOS 3.1 release. This includes integration into the CI/CD pipeline where the software undergoes both compliance and data model testing. These implementation and integration experiences are providing the USP Project Stream with proposed enhancements to the USP Services Architecture to be considered for the upcoming USP 1.4 release later this year.

The group is also working with QA Cafe to develop and implement a plan for executing USP compliance testing against new major releases of OBUSPA and the best options for making these reports available for downstream consumption.

Looking ahead, the OBUSPA team will work with the RDK community to get Release 8 integrated into RDK-B and will begin scoping Release 9 content soon.

For more information about the team's latest work, visit: <u>https://wiki.broadband-forum.org/display/OBUSPA/OB-USP-Agent+Home</u>.

OB-UDPST project team collaborates with a network operator regarding large-scale rollout



The Open Broadband-User Datagram Protocol Speed Test (OB-UDPST) project produces an open source implementation of a tool to perform IP layer capacity metrics and measurement.



Building on the success of the publication of version 8.1.0, the OB-UDPST project team is working with a network operator as they evaluate a large-scale rollout driven by their multi-stream & multi-gigabit testing needs.

Work has begun on version 8.2.0 that in addition to some minor fixes and enhancements, will now include multi-key authentication. This will allow each individual server instance to better support a variety of client instances across different service offerings and device types. For large deployments, this capability is expected to significantly improve key management and maintenance.

The OB-UDPST project team continues work on Issue 4 of TR-471 to include the new multiflow capabilities in the information model. Work to add new parameters to the TR-181 Data Model to support Issue 4 of TR-471 continues.

For more information about the OB-UDPST project team's current progress, please visit: https://wiki.broadband-forum.org/display/OBUDPST/OB+UDP+Speed+Test+Home.



OB-5WWC Project Team's 5G-RG software architecture open for comments

Open Broadband-5WWC (OB-5WWC) is an Open Source project focused on bringing the full benefits of the 5G ecosystem to fixed-line services and offering a full end-to-end solution to operators. The aim is to create a reference implementation of the Broadband Forum specified Wireless-Wireline Convergence solution for 5G capable Residential Gateways (5G-RGs), providing shorter time-to-market for products and reduced development times and cycles.

OB-5WWC also seeks to provide a solution stack suitable for integration with OpenWRT/RDK-B frameworks and to provide a reference for testing Access Gateway Function (AGF) and RG test tool development.

Members of the project team have supported mutual members' activities by improving data models for cellular interface management to establish an RG architecture Technical Report for the BUS Work Area.

The group continues its progress with the architecture, design, and alignment with OpenWRT and RDK-B and gaining clarification of RG deployment scenarios. The team has documented RG deployment, architecture, and modeling aspects.

An RDK-aligned 5G-RG software architecture proposal was submitted in Q4 2023 and is still open for review and comments. The exploration of components and tools to establish the test environment, including for AGF and 5G Core, is in progress. A chipset vendor member has offered to contribute simulation and testing components.

The project team's goal is to firm up the architecture and start the Minimum Viable Product (MVP) implementation with code submissions from members.

An important next step continues to progress by defining a common approach to access SIMbased credentials to develop a Broadband Forum compliant solution covering wired-only 5G-





RG, and the group is calling on device manufacturers to support this activity. The team plans to document the deployment, architecture, and modeling aspects of RG.

Discussions have begun on aligning with and supporting the Broadband Forum's CloudCO live demonstrations in 2024, considering key use cases with 5G-RG.

There is now an opportunity for interested parties to contribute software architecture and design reviews, code, and testing components.

The project team continues to welcome interested parties, including candidates with software development experience, and radio module and mobile experience.

For any interested parties (including non-Broadband Forum members) that wish to be part of the project, please sign the project participation agreement online <u>here</u>.

For more on the OB-5WWC project's current work, please see: <u>https://wiki.broadband-forum.org/display/OB5WWC/OB-5WWC+Home.</u>

.....

.....

Upcoming BASe events

- <u>'The Future of the Connected Home' Omdia Survey Webinar March 26</u>
- BASe at OFC: Meeting Rural Broadband Needs with High Capacity PON March 28
- PON Interoperability vBASe Webinar April 11
- Future of PON Telco vBASe Webinar May 9
- BASe at ANGA COM 2024 Converging the Access to true Multi-Service Fiber May 14 – May 16

.....

Save the dates! Broadband Forum face-to-face 2024 meetings

- June 17-20, Summer 2024 Meeting, Incheon, South Korea
- November 18-21, Fall 2024 Meeting, the Americas (TBD)

.....

Welcome to our new and returning members!

We welcomed a mix of new members and guest companies during the Spring Member Meeting 2024. We had 158 registered attendees, with 12 first-time attendees and 16 guests from 12 companies. Our new members include: <u>Alethea, Evolution Digital, Go Fiber, Positron Access</u> <u>Solutions, Sichuan Changhong NeoNet Technologies Co., Ltd., Tadtelmax</u>, and <u>Veego</u>.

Are you interested in becoming the next member of the industry's leading standards body in defining broadband networks? Broadband Forum membership will not only accelerate your company's progress but enable you to become a key influencer in developing 5G, the Cloud, the connected home and access networks.

We have a range of membership options for companies of all sizes, from startup companies to large corporations and not-for-profit organizations. Our new regional <u>Operator Membership</u> <u>category</u> has further opened participation; take a look for further details of the access level privileges, benefits and requirements.





To learn more about the benefits of membership, watch the video interview with Rhonda Heier, Director of Membership Development, as Rhonda discusses the value of the Broadband Forum membership <u>here or email rheier@broadband-forum.org</u> for more information.

.....

Contact information

Questions or ideas? Contact the Broadband Forum on +1 510.492.4020 or email info@broadband-forum.org.