

A Word from our Leadership Team

This year's first quarterly meeting coincides with the anniversary of a year in lockdown for many of us. Throughout a year of improvising, adapting, and overcoming various challenges, the amount of progress and developments that have been achieved by the Broadband Forum Work Areas is a testament to the effort and shared vision of the members of our organization.

Virtual meetings have provided a suitable temporary alternative to our face-to-face meetings and, while they will not become the new norm, they have gone a long way in helping replicate the energy and collaboration of our usual in-person meetings. It is fantastic that we continue to drive record levels of participating members and guests to our platforms. It is therefore no small feat that our members have managed to maintain an amazing amount of work contributions, resulting in a significant amount of Technical Reports, Test Plans and Market Reports being published. I would like to thank all of our project leaders, active contributors and the entire membership in ensuring our momentum continues.

Over the last year, the importance of reliable broadband was laid bare. During a period of unprecedented reliance of so many on dependable broadband access, the contribution of Broadband Forum members towards improving the technological ecosystem cannot be understated.

We commissioned an industry wide Connected Home survey with Omdia surveying service providers around the world and created our first virtual demo that spanned Cloud CO, OB-BAA, USP, and Closed-Loop Automation. We also introduced our first Self-Test Certification Program (USP) and achieved several Certification Program Milestones, including the inclusion of XG-GPON and XGS-PON in BBF.247, Beta Trials for BBF.398, a G.Fast Performance Test Plan and a BBF.369 Self-Test Certification Program. We also took BAsE virtual for the first time, started the Open Broadband UDP Speed Test project, and we completed the first phase of Wireless-Wireline Convergence.

Although we would have loved to have congratulated our deserved award winners in-person, the collective gratitude from all at Broadband Forum cannot be overemphasized as we recognize their achievements towards helping us improve broadband open standards. This meeting provided the backdrop for our annual board member elections and we congratulate newly elected and re-elected members that have joined the Board of Directors. We'd also like



to thank the board members who are standing down for the excellent service that they have demonstrated to the Broadband Forum over their terms.

We would also like to take this opportunity to recognize Bernd Hesse, whose leadership, energy and character has helped the Broadband Forum's BASE continue to go from strength to strength as our virtualized educational and thought leadership seminars have grown significantly over the last 12 months even in the face of the global pandemic. Key highlights have been attracting registrations from around the globe, as well as over 4k post-event downloads of the presentations. In light of this continued success Bernd has been appointed as Chief Marketing Officer of the Board and we intend to expand to even more topic streams and wider audiences across the industry.

Thank you all for a great first quarterly meeting of the year, your continued efforts and support are truly appreciated. We hope to keep progressing our important work and building momentum as the year progressing.

MaxLinear, Axiros, and Vodafone members among those awarded for broadband work in 2020



The Broadband Forum recognized significant contributions made to the successful development of broadband open standards at its first quarterly meeting of the year. MaxLinear's Dr. Aleksandra Kozarev was recognized as a Distinguished Fellow for helping drive forward copper technologies including G.fast, G.hn, MoCA, and VDSL2 across the industry. She has also been a driving force behind FANCE (Fiber Access Network Copper Extensions), opening the path for extending fiber fed services into the premises.

Circle of Excellence awards were presented to Daniel Egger (Axiros) and Jonathan Newton (Vodafone) for consistently exhibiting leadership and diligence in pursuit of advancing the Forum's mission. Outstanding Contributor awards were given to; Al Morton (AT&T), Peter Thompson (PNSol), David Woolley (Telstra), Mateusz Lech (Orange), Marcos Martinez Vazquez (MaxLinear), Ruobin Zheng (Huawei Technologies), Nick Hancock (Adtran) and Rosaria Persico (TIM).

"2020 was a year full of challenges and saw the broadband community come together as one to continue to work together constructively and collaboratively to keep the industry progressing and thriving," said Broadband Forum Chairman John Blackford. "It goes without saying that we are delighted to recognize the important contributions these individuals have made in helping the Forum break into new areas of technology, and their vision continues to inspire our industry's growth."

For more information about the award winners and to see the full release, click [here](#).

TR-069 self-testing tool promises faster connected device certification

Certifying internet-connected devices for the home as compliant with the industry's most widely deployed management protocol will become quicker and easier thanks to today's approval of the first TR-069 self-testing tool.



The enablement of self-testing for TR-069 provides operators and vendors with the ability to perform test procedures themselves that would normally be carried out by a qualifying test lab. It also ensures that vendors and original equipment manufacturers (OEMs) can prove their devices work, which offers providers a benchmark they can use with vendors and their customer integrations. TR-069 enables the remote and safe configuration of network devices, or customer premises equipment (CPE).

"This is a landmark moment for global broadband players across the industry as our first self-certification tool as part of the BBF.069 CPE Certification Program will allow devices to pass certification quicker than ever before," said Broadband Forum Managing Director Ken Ko. "As vendors and providers seek to introduce products to market cost-effectively, they now have the opportunity to get involved in the program and have the confidence to certify their products seamlessly".

Take a look at the latest release [here](#).

New testing lab approval for BBF.398 Wi-Fi standard spreads standardization net

Growing international demand for the broadband industry's first performance testing specification for indoor Wi-Fi, Broadband Forum's BBF.398, has led to Allion Labs (Taiwan) being approved as a new testing lab.



Allion Labs joins Broadband Forum's existing test lab, University of New Hampshire InterOperability Laboratory (UNH-IOL), to help service providers around the world to select optimal Wi-Fi solutions and deliver guidance to vendors bringing products to market. Network operators and equipment vendors use BBF.398 to evaluate home Wi-Fi device performance across receiver sensitivity, throughput, coverage, multiuser support, anti-interference, and stability Key Performance Indicators (KPIs).

"BBF.398 is a critical tool for creating a performance network ecosystem to benefit every player – from the equipment manufacturer to the network operators and service providers, right down to the end user – in an increasingly connected environment. We look forward to continuing our close relationship with Broadband Forum and taking an active role in ensuring the requirements of service providers and equipment vendors are met," said Allion Labs' Business Development Manager and Wireless Expert Thomas Chang.

Read the full press release [here](#).

Latest Board of Directors unveiled



The Board of Directors election concluded during the Opening Plenary of the Q1 meeting and three new directors were announced:

- Barbara Stark, AT&T
- Hongyu Li, Huawei Technologies
- Mike Talbert, Verizon

Two directors were re-elected:

- Aleksandra Kozarev, MaxLinear
- Manuel Paul, Deutsche Telekom

Congratulations to all of you!

Thank you to our sponsor, Friendly Technologies!



[Friendly Technologies](#) delivered an engaging presentation on Friendly Device Management: The path to new services during the Q1 Opening Plenary. Highlighting its success stories, integrated solutions and worldwide reach, the IoT and device management company recognizes the era of change within the industry and actively participates in the Broadband Forum to help address this.

Members of Broadband Forum since 2006, Friendly Technologies first introduced TR-069 management to its platform and has in recent times, joined the working group of the USP standard. In the presentation, USP was highlighted as the most suitable solution to fully manage services and devices. The ability to support them remotely for existing and new customers will help reduce the amount of customer churn for service providers.

Our Omdia Survey success

Following the success of our '[Future Telco-Connected Home 2021 Survey Report](#), a global survey of over 100 service providers vision and plans for connected home services, The Broadband Forum hosted a [series of webinars](#) that tackled key Connected Home trends and subjects such as:

- What the opportunities for Wi-Fi managed home or business will look like in 2021, and what technology advancements are supporting this?
- How will service providers enable and meet the demands of ever-increasing growth in device management inside the home, and what the demands of smart home, other IoT and application service providers mean to the telco operator plans?
- What is driving telco new services and how they will be delivered
- What is the opportunity for homeworking as well as residential services and delivering a quality of service to meet specific application service demands?



COMMScope



NOKIA

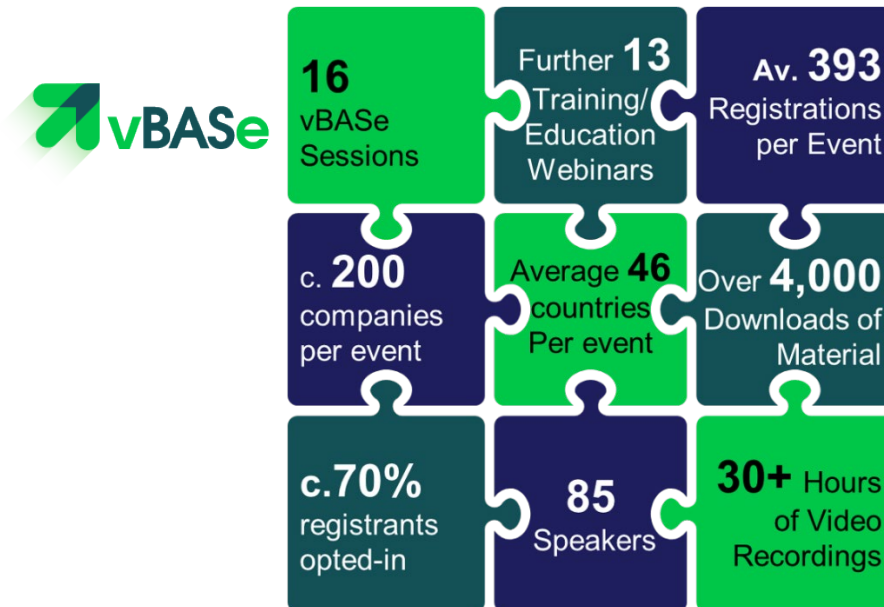
Qualcomm

verizon



A special thanks to our Omdia Sponsors for their expert opinions!

vBAsE continues momentum into 2021



Building on the 2020 vBAsE session success which attracted nearly 400 registrations on average per event and more than 4,000 downloads, the 2021 series of webinars will be aligned within three different topics that address the challenges facing the telco and cable broadband ecosystem.

These are encompassed under the following series:

- Connected Home, IoT and User ‘State of Play’
- Fiber Access ‘State of Play’
- The Network and Service Delivery ‘State of Play’

Each one of these series will include a minimum of three vBAsE webinars and will be featured as a dedicated ½ day within the vBAsE State of Broadband Summit. As part of BAsE Sponsorship, Broadband Forum’s sponsors are invited to participate in its thought leadership webinar series of events that include perspectives from both service providers and technology leading vendors, solution providers and analysts.

Our BAsE 2021 sponsors so far include:

- Platinum sponsor – Calix, DZS, F-Secure Corporation, Huawei and Nokia
- Gold sponsor – Friendly Technologies, InCoax, Laboratoire des Applications Numeriques (LAN Laboratory), MT2 and PIC Advanced
- Silver sponsor – Domos and Incognito

Broadband Forum is calling for proposals from service providers and vendors for presentations, roundtable panels and video use case studies for all of our vBAsE and BAsE 2021 events. All proposals should be titled “vBAsE 2021 Call for Speakers” and submissions should include:

- Title of the specific listed webinar and your panelist session or presentation
- A short synopsis of the content and a bio of the presenter

Submissions should be made to: basechair@broadband-forum.org. Please also ‘CC’ Broadband Forum’s Marketing Coordinator, Tiffany Cracknell, on all proposal submissions at tcracknell@broadband-forum.org.

Work Area Updates

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

ATA defies COVID



Target: The Access & Transport Architecture Work Area maintains primary architectural work of the Broadband Forum. This work reflects the control, management and data plane aspects of the Broadband Forum’s defined and new architectures. These architectures are augmented to leverage new industry practices, while protecting the investment in broadband networks already deployed.

Outcomes:

Four documents went to Straw Ballot -

- 1.WT-459.2 CGN for DBNG (in progress)
- 2.WT-521 5G Transport
- 3.WT-459.3 IPTV Multicast for DBNG
- 4.MD-452.2 QED for creation of application SLAs

Progress:

Access Architecture (AA) Project Stream

The Q1 2021 meeting was the first quarterly meeting of the new Access Architecture Project Stream (PS). The project was formed at the close of the Q4 2020 plenary and has been meeting during Q1 2021 on conference calls to progress previously non-PS assigned deliverables.

WT-459.2 CGN for DBNG (CONTRIB-22414) started the approval process (SB) before the Q1 2021 meeting and is currently in the balloting period. The ballot will close at the end of the month and comment resolution will begin.

Work has nearly completed on WT-459.3 IPTV Multicast for DBNG (CONTRIB-22628). The document will start the approval process (SB) after the Q1 2021 meeting.

Progress continues on WT-474 Subscriber Session Steering (CONTRIB-22389). This project was moved to this PS from SDN/NFV after the Q4 2020 Closing Plenary.

Phase 1 Use Case progress was made on the new project for DBNG for Wired Access WT-487 (CONTRIB-22693).

Mobile Transport & Routing (MT&R) Project Stream

Progressed WT-522 Mobile-Transport Network Slice Instance Management Interfaces (MMI) - In progress (CONTRIB-21582) WT-522 will align with IETF work on network slicing.

WT-521 5G Transport Networks (architecture and requirements) (CONTRIB-20551), will start the approval process (SB) after the Q1 2021 meeting.

Performance, Experience, Application Testing (PEAT) Project Stream

Work continues on QED and IP Capacity Metrics and Measurement, specifically:

- WT-471i2 Maximum IP-Layer Capacity Metric, Related Metrics, and Measurements (CONTRIB-22707) progressing updates resulting from
 - IETF coordination and
 - OB-UDPST Open Source project
- WT-452.2 Quality Attenuation Measurements using Active Test Protocols - In progress (CONTRIB-22309).
- WT-452.3 QED Quality Attenuation Conformance Testing - In progress (CONTRIB-22147).

MD-452.2 Use of DeltaQ to Manage Customer SLA (QED) - starting approval process (SB) (CONTRIB-22309).

For more information on ATA Work Area's ongoing work, visit: <https://wiki.broadband-forum.org/display/BBF/Access+and+Transport+Architecture>.

BUS group celebrates growth in participation and TR-069 Certification tool



The Broadband User Services (BUS) Work Area saw tremendous participation on a number of key topics. The revolutionary User Services Platform (USP) will see version 1.2 (TR-369) released later this year, with several updates and expanded features from developers implementing the standard and using the OB-USP-Agent Open Source reference sharing their knowledge.

The group also celebrated the release of a new, streamlined self-testing program for TR-069 certification, bringing it in-line with USP/TR-369 certification and making it easier to prove that implementations will work, and work well in the field. The industry is coming to the BUS group to standardize Wi-Fi management metrics from a number of different organizations and deployments. These will be incorporated into Device:2.15, also later this year, along with updates to recently published 5G fixed wireless models and more.

Lastly, the group also agreed to begin work on the next version of TR-398 (Issue 3) alongside the Physical Layer Transmission (PHYtx) Work Area, advancing useful benchmarks for carrier-grade Wi-Fi in the home.

Common YANG draws a record crowd as WT-383a4 Straw Ballot review nears completion



Target: Specify YANG modules that are applicable to multiple Work Areas, NETCONF/YANG test plans and certification for the defined YANG modules, and maintain YANG Best Current Practices, processes, procedures and tools.

Progress: Straw Ballot comment resolution on Amendment 4 of WT-383 is nearing completion; accepted several additions to Amendment 5 of WT-383 covering Software Management, file transfer / file repository, and support for IEEE Connectivity Fault Management (CFM). During a joint review with the FAN Work Area, several comments were approved on the YANG model for Voice over IP (VoIP).

Outcomes: Start a two-week review on all accepted pull requests; extend the review cycle for the VoIP YANG model for a further four weeks, then plan an interim call to discuss further.

The Q1 virtual Common YANG meeting drew a record crowd of YANG experts, all determined to bring the Common YANG Modules for Access Networks (WT-383) to the next level. With these modules, service providers can efficiently manage a range of broadband services supported over any access technology, including VDSL, FAST and Passive Optical Networks (PON).

Straw Ballot comment resolution of Amendment 4 is well under way. The group is in the final stretch to resolve remaining open comments. Once completed, this Amendment will not only further improve existing modules, but more importantly will become a reference to be used by the SDN/NFV Work Area related to the 'YANG Modules for Access Network Map & Equipment Inventory' (WT-454).

In parallel, work is progressing well on Amendment 5 on a variety of extensions including Software Management, YANG models for file transfer and a file repository, and the integration of the IEEE CFM OAM YANG model with the BBF YANG model.

In collaboration with the FAN Work Area, the group is also progressing on the definition of a YANG model for VoIP. During the meeting, a number of improvements to the current draft model have been agreed upon. Given the complexity of the modules, additional review time will be provided for interested parties to provide further comments, after which an interim conference call will be setup to discuss next steps.

Last but not least, Common YANG is also anticipating further contributions on Amendment 4 of the YANG Modules for Fiber-to-the-distribution-point (FTTdp) Management (WT-355).

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-tastic Q1 as Project Streams progress



Target: The Fiber Access Network (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 ITU-T PON Conformance, and compliance Test Plans related to XGS-PON, NGPON2 and PMD Layer. Lastly, it is responsible for IEEE PON YANG and ITU-T PON Layer specifications.

Progress/Outcomes:

- The PON Management Project Stream continues WT-385 ITU-PON YANG Issue 2 Amendment 1 work.
- The Unassigned Project Stream has started WT-280 Issue 2 ITU-T PON in the context of TR-178 work.
- The Interop Project Stream has started DTP-247 Issue 4 Corrigendum 1: G-PON, XG-PON1 and XGS-PON ONU Conformance Test Plan.

Outcome: WT-280 Corrigendum 1 Issue 1 ITU-T PON in the context of TR-178 was approved.

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

**OB-BAA – Ongoing collaboration between Open Source and Open Standards continues to advance and accelerate the adoption of interoperable, standardized solutions across the industry**

The Open Broadband – Broadband Access Abstraction (OB-BAA) project team continued to engage with the standards development activities within Broadband Forum. This involved the standardization of the virtualized ONU management (vOMCI) by helping specify the interfaces defined in WT-451 along with the associated YANG data models. Additionally, the OB-BAA Work Area has been working alongside the Broadband Forum standardization body to help define the interfaces and protocols for the disaggregation of control plane functions within the Access Network in WT-477 and WT-413i2. Finally, the team continues to help contribute to the definition of the BAA layer in WT-484 Access Network abstraction, softwarisation and disaggregation based on the OB-BAA system description.

The consensus work by the OB-BAA team and the Broadband Forum in these areas will be realized as part of the OB-BAA 4.1 release continuing the effective partnership with the Forum where the OB-BAA Open Source project can be used as a reference implementation of the Broadband Forum standards.

Take a look at OB-BAA Work Area's latest work here: <https://wiki.broadband-forum.org/display/OBBAA/Open+Broadband+Broadband+Access+Abstraction+Project+Home>.

OB-MAP and prplMesh partnership yields continued success

The Open Broadband – Multi Access Point (OB-MAP) project – together with prpl Foundation's prplMesh project – has continued work on how prplMesh data will be represented in TR-181. Some of this work has moved into the BUS Work Area to help formalize this architecture, the modeling of commands, and ensuring the architecture



meets the needs of a variety of use cases (including wireline technology). The data model (and prplMesh APIs) continues to be critical for all physical layer networking technologies.

In the future, OB-MAP still expects to produce vendor extensions to the IEEE 1905.1, a specification that will provide carrier-grade capabilities enhancing EasyMesh operation in operator deployments. Once these are complete, the team will also deliver certification requirements for these Broadband Forum extensions that will ultimately lead to a certification program.

For more on the OB-MAP Work Area's ongoing work, please see: <https://wiki.broadband-forum.org/display/OBMAP/OBMAP+Home>.

The number of participants grows for OB-USP Agent project team

Recent Accomplishments: OB-USP-Agent project team is working through the Dunlin Release (Release 4) and continues to see the number of participants and active contributors grow with every release.

Current Efforts: The team is making notable progress on the Dunlin Release and is focused on implementing the ScheduleTimer mechanism, expanding the support of the Controller Trust features, and adding support for the OnBoardRequest notification and associated SendOnBoardRequest() command.

Future Plans: The aim is to publish Release 4 in the Q2 2021 timeframe.

For more on the OB-USP-Agent Work Area's ongoing work, please see: <https://wiki.broadband-forum.org/display/OBUSPA/OB-USP-Agent+Home>.

OB-UDPST successfully launches its third release

Current Progress: The OB-UDP Speed Test (OB-UDPST) project team has launched Release 7.1.0 (its third Broadband Forum release) on schedule: March 5, 2020. This Release published a detailed OB-UDPST protocol description, which allows developers to easily understand key aspects, such as the simple set-up request and test activation interactions, the protocol support for strategic positioning of the load rate adjustment algorithm at the Server (chosen for easier update at fewer/more accessible hosts than the clients), and the efficient test stopping procedure embedded in packets during the testing phase.

The team is currently providing input to WT-471 Issue 2 based on release 7.0.0 and 7.1.0 features.

Past Accomplishments: The team published Release 7.0.0, its second collaborative/public release in December 2020. Participants from Broadband Forum enhanced AT&T's original software utility to allow organizations to continue experiments with varying technologies, address feedback from the test results contributed by team members, and add several new features such as bimodal results analysis.



Future Plans: With more developers joining the project and offering their ideas and skills, the team will likely take-on work to provide results in JSON format (output), wider code portability, optimizations and additional operating system support. Like any other Open Source project, if you want new features, send developers!

For more on the OB-UDP Speed Test Work Area's ongoing progress, please see: <https://wiki.broadband-forum.org/display/OBUDPST/OB+UDP+Speed+Test+Home>.

Physical Layer Transmission on track to publish the next revision of TR-380 G.fast performance test plan



Target: To help service providers deploy equipment that will provide a better Quality of Experience (QoE) for their end-users.

Progress: The marketing report 'Utilizing existing copper infrastructure for deployment of fiber-grade services' (MR-419) has been published. Two new projects were started: 'Architecture and Requirements for Home Distribution Networks' (WT-488) and 'Reverse Power Feed Testing Issue 3' (WT-338i3).

Outcome: A corrigendum on 'G.fast Certification Test Plan' (TP-337i3) is ready for final approval. 'G.fast Performance Test Plan' (WT-380i2) has been prepared for technical comment resolution.

MR-419 provides an answer to five key questions that telecom operators and service providers may have regarding the Fiber to the extension point (FTTep) architecture. FTTep can be used to offer fiber-like speeds and experience on any existing copper infrastructure where the installation of fiber to end-users' premises is not yet viable or economical.

WT-380i2 has been prepared for technical comment resolution (Straw Ballot). This latest issue of the Test Plan brings performance targets for the deployment of G.fast over coaxial infrastructure.

WT-488 and WT-338i3 are new projects started in the PHYtx work area. WT-488 intends to provide insights into home network Use Cases (UCs) in order to facilitate the enabling of a service provider-oriented home network. WT-338i3 addresses the reverse power feeding over coaxial cable deployments, according to ETSI TS101 548-2.

To gain further insight into what the Physical Layer Transmission Work Area is doing, visit: <https://wiki.broadband-forum.org/display/BBF/Physical+Layer+Transmission>.

Productive Q1 for SDN/NFV



Target: To drive the migration of SDN and NFV into all aspects of broadband networks to facilitate the agile deployment of new customized distributed broadband services and applications for operators with greater operational efficiency and lower cost.

Progress: The SDN/NFV Work Area continues to progress the Cloud-based-Central Office (CloudCO) project for virtualized network functions, SDN management and control and CloudCO domain orchestration capabilities in Broadband Network. The project encompasses an expanding set of deliverables addressing Reference Architecture, Interfaces specifications, Software reference implementations, Coexistence and Migration and exemplary implementations and testing. Some of these activities involve other Broadband Forum Work Areas and continues to expand. Issue 2 of the CloudCO specifications has started addressing gaps and enhancements.

Outcomes:

The following were published between the Q4 2020 meeting and Q1 2021 meeting:

- 'NETCONF Requirements for Access Nodes and Broadband Access Abstraction' (TR-435), 'Access & Home Network O&M Automation/Intelligence' (TR-436), 'Test Cases for CloudCO Applications' (TR-412) and 'Definition of interfaces between CloudCO Functional Modules' (TR-411).

The SDN/NFV Work Area continued to progress work on a number of specifications including:

- 'YANG Modules for Network Map & Equipment 17 Inventory' (WT-454) completed the Straw Ballot process and the Final Ballot is ready. However, WT-454 final approval is dependent on WT-383i4 Straw Ballot completion.
- 'vOMCI for New Access Nodes' (WT-451) Straw Ballot comment resolution continues as the flow control discussion has been completed and the issue unblocked.
- The group has kicked off the work on the next revision of CloudCO (WT-384i2) and identified some areas where improvements and extensions are needed.
- 'Network intelligence and automation interfaces' (WT-486) has begun with an initial baseline text being approved.

'CloudCO Enhancement - Access Node Hardware Disaggregation' (WT-477), 'Access Network Abstraction, Softwarisation and Disaggregation' (WT-484) related to OB-BAA Open Source activities, and 'SDN Management and Control Interfaces for CloudCO Network Functions' (WT-413 Issue 2) are interdependent specifications. They define the disaggregation functions and interfaces for a complete picture of the SDAN access network to see overall how functions play together. Work on WT-477 call flows is being addressed via Wiki page active discussion. There is an issue being discussed on whether requirements for SDAN should be in WT-484 or a separate SDAN framework specification.

'Metro Computing Network' (MCN) draft (WT-466) project looks at the Cloud computing locations, particularly Edge compute locations. The group investigates how the compute locations can be networked together such that resources (VNF/CNFs) for services can be deployed and scaled across the multiple Compute locations on demand. The project also examines the new capabilities of edge computing and how it impacts multi-service broadband networks. The MCN project is rethinking the network architectural edge and routing to extend an NFVI interconnect which may reduce Operator Open Application Model (OAM) and enable



a network of edge computing islands. The group is still working on addressing the identified gaps ahead of completion.

New project WT-486 is underway building on the Automated Intelligent Management Framework specification TR-436 previously approved. While this is a different Project Stream within SDN/NFV Work Area, network automation and low-maintenance operations are imperative for simplifying network validation and engineering, streamlining network deployment and upgrades, and improving operations with less error-prone and automated OAM in the CloudCO environment. WT-486 includes Use Cases, subsystem logical reference points, and AIM Interface requirements. The approach is taking a bottom-up perspective, identifying new and existing interfaces, and gaps, as well as examining what other organizations are doing to not duplicate work. One point in particular, is identifying the relationship to TMF and at this point, this is TBD.

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

WWC readies next round of specifications



Target: Address the needs of converged operators, which have both wireline and mobile networks deployed and are in a position to leverage all their assets with combined subscriber offerings.

Progress: The WWC Work Area is engrossed in the second phase of specification development as the group looks to subsume more of the capabilities of the 5G architecture. The group has firmed up its roadmap to complete a second set of specifications and updates to the current specifications.

Outcomes: A set of new capabilities and enhancements will be published by the end of the year.

Work in the WWC Work Area has transitioned from completing the basic set of specifications to focusing on topics that bring 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 of their networks while at the same time giving them more paths to transition their networks from legacy to 5G. This work will allow converged operators to provide a uniform experience to their customers irrespective of the access or appliance they are using. This will be supported by a common and streamlined back office and control plane.

Broadband Forum is now studying how to extract more value from the available feature set from 3GPP in the context of expanding legacy device support, being able to monetize the additional network functionality 5G brings to the table and expanding the overall addressable market for convergence. The group is currently incorporating technology from the 5G system into our 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.

The group continues to develop webinars to expose the industry to the [capabilities of Wireless-Wireline Convergence](#), with the next in the series scheduled for early May.

Broadband Forum is taking an important role in developing 5G, making recommendations for the connection points between the fixed and 5G mobile core networks in order to drive core convergence.

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



Welcome to our new and returning members!

At the Q1 Opening Plenary, Broadband Forum welcomed 349 registered attendees from 120 companies including 55 first-time members. In addition, there were 58 guest companies in attendance highlighting the continued importance of the quarterly meetings in bringing together players from across the globe. Our new members include [Alethea](#), [APS Networks](#), [Genew Technologies](#), [H3C](#), [Harmonic](#), [Heights Telecom](#), [Liberty Global](#), [Microsoft](#), [Tellabs](#), [TP-Link](#), [Traveling](#) and [Vecima](#). [CableLabs](#) and [Reply](#) have also upgraded their membership.

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 [Operator Membership category](#) 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 [here](#) or email rheier@broadband-forum.org for more information.

QED, OpenRan, Gigabit Speeds and Open Broadband Speed Tests among latest Q1 blog topics

The last quarter saw the latest Broadband Forum blog posts encompass a wide spectrum of the broadband ecosystem. Jason Walls, QA Cafe, and Jeevithan Muttu, Incognito Software Systems, discussed the [growing importance of Broadband Forum's USP Certification Program](#) for those looking to certify their USP solutions and those in the market looking to obtain certified products for deployments. A blog post highlighting the launch of the OB-UDPST project team and its latest work was written by Al Morton, and Len Ciavattone, AT&T, outlining how to [build a better broadband ecosystem with more accurate Open Broadband Speed Tests](#).

Magnus Olden, Domos, discussed the collaboration between Broadband Forum and prpl Foundation and how they are ideally suited [to build the OpenRan of the home](#). As end-users become increasingly reliant on seamless broadband connectivity, operators now have to look beyond conventional measurements to improve overall broadband experience. Gavin Young, Vodafone, considered how Broadband Forum's Broadband Quality Experience Delivered (Broadband QED) is helping arm [operators with the tools they need to meet growing requirements](#).

Following the publication of the Broadband Forum's Technical Report TR-419, Herman Verbueken, Nokia, examined [bridging the gap between copper-based and fiber-based gigabit](#)



[service deployments](#) and what lies ahead for FTTEp. April Nowicki, Member Support Manager at Broadband Forum, helped inform the membership on how to navigate the Forum's member-only tools and understand how Broadband Forum work progresses in her latest [blog post](#).

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Broadband Forum in the news

Following the publication of Broadband Forum's 'The future Telco – Connected Home 2021 Survey report' in partnership with Omdia, [Digital TV Europe](#) highlighted that the connected devices market is set to surge by 70% by 2025. Subsequently, following the Broadband Forum and Omdia webinar, [Broadband Breakfast](#) outlined that privacy and fragmentation of devices on broadband networks a cause for concern for service providers.

[Broadband Technology Report](#) covered the news surrounding TR-419, and how copper infrastructure can lead to fiber dividends. The news was covered globally including German publication, [Cable!Vision Europe](#) which discusses the benefits of using alternative access technologies. A video interview with Managing Director Ken Ko was published in [Total Telecom](#), discussing the role of the Forum now and in the future, Ken's experiences in the broadband industry and how the global pandemic has affected the industry's progress.

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Events Calendar

Broadband Forum Meetings and vBASE Events

Q2 2021

- April 28, 2021, Fiber Access State of Play vBASE series, "PON Deployments Reality Check", Virtual
- April 29, 2021, Connected Home State of Play vBASE series, "The Connected User - The Key Areas for Success", Virtual
- May 5, 2021, WWC 101 vBASE Knowledge Webinar, Virtual
- May 11-13, 2021, vBASE Summit "State of Broadband", Virtual
- May 20, 2021, Fiber Access State of Play vBASE series, "Future of PON Technology Update", Virtual
- May 27, 2021, Service Delivery State of Play vBASE series, "The Open Software Defined Network: Reality Check", Virtual
- June 6-10, 2021, OFC vBASE, Virtual
- June 7-10, 2021, Q2 Meeting, Virtual
- June 24, 2021, Connected Home State of Play vBASE series, "Enabling the Managed Connected Premise", Virtual

Q3 2021

- July 8, 2021, Fiber Access State of Play vBASE series, Virtual
- July 22, 2021, Service Delivery State of Play vBASE series, "The Converged Mobile and Fixed Network", Virtual
- July 29, 2021, Connected Home State of Play vBASE series, "Who Owns the Home? Application provider versus Service Provider enabled Connected Home Round Table", Virtual
- TBC, vBASE Asia, Virtual

- August 4, 2021, Certification and Interop Update BAsE Knowledge webinar, Virtual
- August 30 – September 2, 2021, Q3 Meeting, Antwerp, Belgium
- September 6-8, 2021, UFBB 21 BAsE event, Virtual
- September 10, 2021, FTTH Europe BAsE event, Virtual
- September 23, 2021, Service Delivery State of Play vBAsE series, “Disaggregating and virtualizing the Network and Services”, Virtual

Q4 2021

- October 12-14, 2021, BBWF BAsE event, Virtual
- October 24, 2021, BAsE North America, Virtual
- November 3, 2021, Service Delivery State of Play vBAsE series, Virtual
- November TBD 2021, Connected Home State of Play vBAsE series, Virtual
- November 29, 2021, BAsE ANZ, Virtual
- November 30 – December 3, 2021, Q4 Meeting, Melbourne, Australia

Sponsorship opportunities are available for Broadband Forum’s 2021 quarterly meetings and BAsE events.

Sponsoring Broadband Forum events is a great way to highlight your company and exhibit your company’s innovation in the broadband industry – including demonstrations or prototypes – while showing your support of Broadband Forum. Opportunities vary and can be customized to accommodate a variety of budgets.

Please view the list of our standard sponsorship packages and benefits at: <https://wiki.broadband-forum.org/display/BBF/Sponsorship+Opportunities>.

If you are interested in sponsoring a meeting, please contact Rhonda Heier at rheier@broadband-forum.org.

Other industry event dates for your diary:

- Convergence India: March 24-26, 2021, New Delhi, India
- Gfast Interoperability Plugfest: April 19 – May 7, 2021, Virtual

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Contact information

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