Welcome to the Broadband Forum Quarterly Newsletter

Keeping you updated about our activities! Here we highlight our latest work and focus on areas which are most critical.

Moving towards practical implementations for the virtualized broadband network….
We need to effectively address disruptive technologies in our general messaging and, critically, in our deliverables. We are well positioned to address changes in the broadband industry, but not without adaptation.

While the industry has been focused on the building blocks for virtualizing networks, the Broadband Forum has been busy creating practical implementations for the current broadband network.

The Broadband Forum is an extremely active facilitator of industry progress, highlighted by the fact there have been a staggering 1000+ technical contributions to the Forum over our last year, reflecting new market requirements and profound changes in service delivery.

The new work is being delivered in the form of a series of standards and as part of this forward-looking initiative, the Forum has elected Michael Fargano (CenturyLink) as its new Technical Committee Chair to spearhead the development of innovative technical standards required for software defined networking and the introduction of virtualization.

To further support the strategy, the Forum has appointed William Lupton (Honu Ltd) as Software Architect. Lupton will define working practices for the Forum's NFV and SDN activities, and leverage his many years of involvement with the Forum and extensive software development experience. He says: "I look forward to supporting the Forum's approach to SDN and NFV to define a methodology for communicating Broadband Forum requirements and architectures. I aim to facilitate conversations with software organisations, encouraging collaboration and acting as a translator in order to bridge the ecosystems."

Additionally, Mark Fishburn (contracted with MarketWord) is working with the Forum on strategic marketing, positioning and messaging as we address this changing market.

Over the coming months we will be migrating the traditional Working Groups to project areas as we look to become more agile, particularly for the faster and smaller deliverables. Our new plan primarily affects End to End Architecture, Service Innovation & Market Requirements and Operations & Network Management, which we plan to roll out at the Q2 meeting in Portsmouth, New Hampshire. Mike Fargano and the new Steering Committee are now focused on planning for the restructure, however a member webinar detailing the plan and new structure, including how new work areas will be established, will take place between now and our next meeting.

Looking forward, we must continue to evolve and develop the specifications and programs the industry needs to embrace new technologies as we look to continue to bring practical deployment of virtualized solutions to the broadband network.

Robin Mersh, CEO

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Thank you to our meeting sponsor!

HUAWEI

Circle of Excellence

The Circle of Excellence Award, which recognizes individuals who have gone above and beyond the call of duty and who have changed the face of broadband, was presented to Hongyu Li (Huawei Technologies) and Scott Mansfield (Ericsson). Hongyu Li has been instrumental in the completion of key multi-service architecture work and progressing SDN virtualization efforts, while Scott Mansfield has been key in driving the Forum's MPLS in carrier Ethernet work, while acting as a strategic liaison aligning the Forum and the MEF (Metro Ethernet Forum) recommendations.

(Hongyu Li receiving his award from Chairman, Kevin Foster)

(Scott Mansfield)

Christophe Alter: Wishing you the best of the luck!

Congratulations go to Christophe Alter, who has been awarded the Leadership Award for his longstanding service and dedication to the Forum, both as a Board member and the Technical Committee Chair.

Our sincere thanks go to Christophe for all of his contributions and the leadership he has given. His inputs have been hugely appreciated over the past ten years!

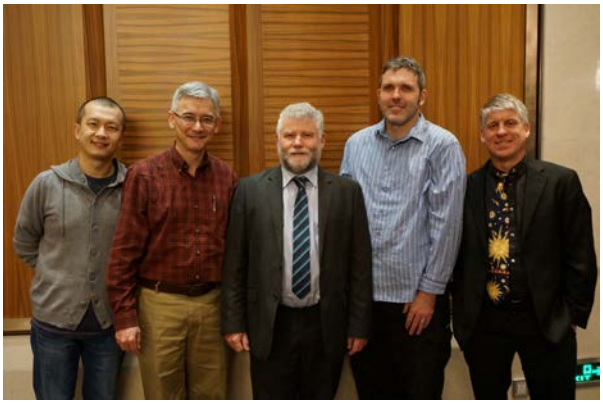
(Christophe Alter)

Outstanding Contributors

The Q1 2015 meeting saw a total of 457 contributions. Shenzhen provided us with the opportunity to recognize the most valuable contributors to their Working Groups in 2014:

Picture left to right:

Jinwei Xia (Huawei Technologies)
Ken Ko (ADTRAN)
David Thorne (BT)
Martin Casey (Calix Networks)
Ken Kerpez (ASSIA)
Diane Patton (Cisco Systems)



(Above: the outstanding contributors)

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Working Group Updates from Shenzhen

Shenzhen Proved Productive for Service Innovation & Market Requirements

Shenzhen was very productive for the SIMR (Service Innovation &M Market Requirements) Working Group as it continues to focus on the high priorities set out by the Service Providers. Looking towards high level requirements, SIMR wrapped up its services chaining work in order to identify future SDN and virtualization activity to map into the MSBN (Multi-Service Broadband Network) work. Flexible Service Chaining (FSC) introduces a new way to conceive/construct services in MSBN+. FSC allows use of resources that could be geographically distributed, including DC environments, and could make use of SDN to implement the chains and Virtualization such that service appliances involved in the chains could be physical, virtual or both. The project defines six (6) new service scenarios and high level requirements for the introduction of service chaining capabilities to extend the MSBN.

Following discussions with the End to End Architecture Working Group and the inclusion of the use case prioritization by SPAC (Service Provider Action Council), SD-340 Stage 1 for Network Function Virtualization and Programmability in Multi-Service Broadband Network (MSBN) was completed. SD-340 not only includes high priority use cases, but it is three-fold, incorporating virtualization recommendations from the Virtualization Project Planning Task Force (VPPTF) and hybrid architectures for the extended MSBN.

SD-351 Stage 1 Analysis of Fixed Access Network Sharing, which originally derived as a use case from SD-340, is also on target to be completed by the Q2 meeting in Portsmouth, New Hampshire. This area of work presents significant business opportunities by applying virtualization to the fixed access network enabling a new type of Virtual Network Operator (VNO), while defining recommendations for the Infrastructure network Provider (InP).

The application of SDN and virtualization techniques with cloud networking is driving new BBF projects that will evolve the current MSBN.

Strong Start to 2015 for Operations & Network Management

2015 kicked off to an strong start with two major pieces of work completing final ballot: WT-311 Fiber Infrastructure Management System completed before the Q1 meeting and went on to become a TR, while WT-304 Broadband Access Service Attributes and Performance Metrics, a joint working area with End to End Architecture, has also passed final ballot.

Shenzhen also witnessed a record turn-out in attendance for Operations & Network Management as major progress was made with WT-318: Management Architecture and Requirements for FTTdp and WT-355: YANG Data Models for G.fast & VDSL. At the meeting, it was agreed that the addition of a management model description would be added to WT-318, while lots of discussion took place around the YANG models to add into WT-355 and how to efficiently deliver a module development strategy for the future.

Working jointly with End to End Architecture, Fixed Access Network and Metallic Transmission, WT-301 FTTdp Architecture commenced the straw ballot comment resolution process. Likewise, working collaboratively with BroadbandHome, the Operations & Networks Management team made some progress on WT-356 Alternate Management Path for Broadband, which describes a new method of managing broadband lines using an alternate data channel or path and particularly for diagnosing disconnections.

Detailed Discussions for BroadbandHome

The BroadbandHome Working Group made considerable progress in a number of areas in Shenzhen. Firstly, the Group, which is co-chaired by John Blackford and Jason Walls progressed MD-278 Managing Machine-to-Machine Systems with CWMP, which is a recent document that outlines the ways that CWMP can be used to enable M2M deployments. This is progressing well and expected to be completed by the end of the year.

Detailed discussions took place in the BroadbandHome Working Group regarding the SD-354 CWMP Report Tool, specifically addressing how the Forum can loop this into Open Source projects in the future. The Group also started to gather contributions for SD-069 (CWMPv2) and SD-282 (Control Signaling and Device Abstraction) that propose protocols for bootstrapping, managing, controlling and enabling broadband and M2M services.

WT-330 TR-069 UPnP-DM Proxy Management Guidelines went to straw ballot and is expected to go into final ballot in Q2 or Q3. This defines implementation guidelines for proxy management using TR-069 Proxying the UPnP-DM Protocol - the proxy management architecture and solution in Annex J and Appendix I of TR-069 Amendment 5 define the Embedded Object Mechanism and Virtual CWMP Device Mechanism. WT-330 seeks to provide a detailed implementation guide to proxy management of UPnP DM devices.

Lastly, major developments took place for compliance and testing. Not only is the Group updating the existing BBF.069 (ATP-069) test plans for TR-069 Amendment 5, but it also working on two other test plans:

- ID-106 CWMP Data Model Validation Test Plan – provides a test plan that may be used to verify conformance of a CPE Device's data model to the requirements defined in TR-106
- ID-181 - CWMP Interoperability and Functionality Test Plan – provides a test plan that may be used to verify that functional operations between a CPE and an ACS are consistent (e.g. Configuring a subscriber's WiFi network such that it is a consistent operation between any CPE/ACS combination

A two day special session is set to take place immediately before the Q2 meeting in Portsmouth, New Hampshire. This special work session will focus on strategic planning for the future of TR-069, and break out into work aligning technical decisions surrounding TR-069 version 2 and the ongoing work with Control Signalling and Device Abstraction to match new and existing use cases.

Major Progress Made towards G.fast Certification in Metallic Transmission

The biggest work item of the meeting for the Metallic Transmission Working Group was ID-337 G.fast Certification Test Plan. The Group, which is chaired by Les Brown and vice-chaired by Lincoln Lavoie and Massimo Sorbara, made significant progress towards the test plan and is still on track to put it into straw ballot in Q2, with beta trials planned for shortly thereafter.

Q1 was an exciting time for G.fast with the first ever plugfest taking place in January. Seven companies implementing chipsets based on the ITU-T's new G.fast specifications met at the University of New Hampshire InterOperability Laboratory (UNH-IOL) to perform the first interoperability testing of the new technology. The plugfest marked the first time implementations of the ITU-T specification came together to test with one another, to ensure deployed products will be interoperable from "day one". Additional events are planned for March, April, and June.

Shenzhen also saw the Group start work on WT-338 Reverse Power Feed (RPF) Test Plan, which is applicable to FTTdp, with further updates expected in Q2.

Good Omens for End to End Architecture

Activity in End to End Architecture continues to focus around virtualization, FTTdp and hybrid access with lots of discussion on the next steps on SDN and NFV that build on the work currently in progress. Following a successful interim meeting in Paris prior to the Q1 meeting, and after reviewing new contributions, WT-317 Network Enhanced Residential Gateway has now made it to straw ballot.

In virtualization, progress was made on WT-328 Virtual Business Gateway and WT-359 A Framework for Virtualization which establishes a comprehensive baseline and outlines how to incorporate SDN. Discussions are already planned with William Lupton, the new Software Architect, to flesh out activity for the next quarter.

Joint sessions were also held with Fixed Access Network to address WT-301 FTTdp, which is now half way through technical contributions and making steady progress. Outgoing liaisons were also addressed, namely with HGI regarding hybrid access.

Hybrid access (WT-348) where the customer premises is served by a combination of wireless and wireline facilities has garnered a lot of industry attention, so End to End Architecture is progressing work in that direction.

Looking ahead, the next quarter will be key for End to End Architecture, particularly as it transits to the new operational re-structure.

Fixed Access Network Reviews Use Cases

As well as working closely with End to End Architecture on the WT-301 FTTdp project, the Fixed Access Working Group began work on WT-352 Multi-wavelength PON Inter-Channel-Termination Protocol (ICTP) Specification. At Shenzhen the Group invited a number of guest attendees from the ITU-T Study Group 15 Question 2 to review the use cases for

specifying a protocol that is executed between the OLT Channel Terminations and, based on the architecture and functional descriptions outlined in ITU-T Recommendation G.989.3 that enables wavelength channel management within an NG-PON2 system.

IP/MPLS & Core Steps Closer to Completion
Advancements were made in the IP/MPLS & Core Working Group, particularly towards WT-292: MPLS OAM ATS which witnessed the straw ballot resolution completion. Final review of WT-319 Achieving Packet Network Optimization using DWDM Interfaces concluded with the possibility of it now reaching final ballot. This work integrates IP and optical networks, achieving multi layer network optimization which can result in significant cost savings. Likewise, TR-221 Amd 2 MPLS in Mobile Backhaul – Time/Phase, Signaling, Resiliency progressed with the possibility of it reaching final ballot shortly.

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Documents approved include:

- TR-100 Issue 3 Amendment 1 "ADSL2/ADSL2plus Performance Test Plan"
- TR-196 Issue 2 Corrigendum 2 "Femto Access Point Service Data Model"
- TR-242 Issue 2 "IPv6 Transition Mechanisms for Broadband Networks"
- TR-285 "Broadband Copper Cable Models"
- TR-304 "Broadband Access Service Attributes and Performance Metrics"
- TR-311 "Fiber Infrastructure Management System: Architecture and Requirements"

These documents will be published in the following days, however for a full list of all work in progress, click here. Please feel free to share this information with your colleagues, so they are engaged and aware of the developments of this work.

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Welcome to our New Members!
5V Technologies
Botswana Fibre Networks
DASAN Networks
HiSilicon Technologies Co., Ltd
SmartRG

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Events Calendar

2015 Broadband Forum Meetings:
Q2 Meeting: June 8-12, Portsmouth, New Hampshire
Q3 Meeting: August 31 – September 4, Porto, Portugal
Q4 Meeting: November 16-20, Puerto Vallarta, Mexico

Sponsoring a BBF meeting can be a great way to get some company recognition! If you are interested in sponsoring a meeting, then please click here for more information or contact Christine Corby at ccorby@broadband-forum.org.

Forthcoming Industry Events:
MPLS SDN World Congress, 17-20 March, Paris, France
Gigabit Copper, 25 March, Munich, Germany
Fixed Access Network Summit, 22-23 April, Berlin, Germany

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Contact information

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