

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

Last week's meeting in Portsmouth may well turn out to be a critical moment in the development and role not just of the Broadband Forum, but also in providing a framework for ultra-fast broadband delivery in a telecommunications world that is very much software driven.



We are all meeting the challenges of this world head-on and I would like to start this editorial by thanking you, the members, for your honest, forthright and knowledge-based debate during this meeting and in the weeks leading up to it. For more than 20 years the Broadband Forum has embraced, and often led, changes in our industry and that spirit and commitment has been evident again as we step further into the virtualized market that lies ahead of us.

We have in fact already come a long way together and the first meeting of the Software Advisory Group, initiated by William Lupton, and a special session on SDN in Broadband, are further signs of progress. We know there are significant challenges ahead as the re-structuring takes further shape prior to the Porto meeting in September. But I'm very confident that we can overcome them and emerge as the organization that put in place the next wave of broadband we spoke about - ultra-fast, agile and responsive and, above all, creating a broadband platform bringing great value to all stakeholders.

So thank you all for what you have done so far. Let's create something that in 20 years' time our successors will look back on as a defining moment in the further development of the broadband technology we are all so passionate about.

Robin Mersh, CEO



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**Thank you to our meeting sponsors!**



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### **Farewell to Laurie Adams de Sa**

During the opening plenary, tribute was paid to former Marketing Director Laurie Adams de Sa, who has left the organization to pursue new activities. Laurie served the BBF with distinction for 15 years from 2000. She had previously been the Bell South representative on the Forum from 1998. In his remarks, Kevin Foster said Laurie's exceptional contributions and service had helped make the Forum the strong organization that it is today.

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### **Mike Fargano is delighted to be Technical Committee Chair as the world of communications and services are being revitalized. He speaks to the Forum newsletter...**

The Broadband Forum is focusing on the practicality of introducing virtualization technologies into broadband networks. This obviously includes SDN and / or NFV and involves a migratory path and transition from static, physical solutions to virtualized end points and functionality that are dynamically configurable. The Forum is focused on the migration and the long-term co-existence of these two worlds. It is important not forget the existing revenue generating network as we move from one world to another. That awareness, and capability, is core the strength of the Forum, going back to examples such as Migration to Ethernet-Based DSL Aggregation (TR-101), covering the transition from ATM to Ethernet.

On subscriber management, TR-069, which is highly successful in the way of massive global deployments, now has a whole new world before it and there is a real chance to leverage that capability in areas like IoT in the future, which has huge opportunities across the consumer, commercial and industrial marketplaces.

Moving to FttDP, the Forum is at the core of this work right now, in terms of industry focus on the architecture, the management and in G.fast testing and certification. This is being achieved on a highly accelerated schedule with a lot of hard work among the membership.

It has been an honor and privilege to become the Tech Chair and leader of such a top notch group of people in the broadband ecosystem, and to be doing it at such a pivotal moment for the industry and as we enter a new era of virtualization full of opportunities for service providers and suppliers. No-one in the industry can be certain of the outcome but we are working with agility to bring new innovative business and technical solutions. This includes working on multifaceted tracks and different layers of the network and also driving software solutions.

While there is uncertainty on how these new opportunities will play out, I'm confident that I'm working with the best group of people in the world to shake out the uncertainty and to lead the industry through it. Stay tuned for more developments as we move forward!

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### **William Lupton settles into software role**

New Forum Software Architect William Lupton will encourage software organizations to collaborate with the Forum as the work moves increasingly towards a software-led future, including work in areas such as NFV and SDN. The role involves facilitating and enabling all of the Broadband Forum's software activities, with specific emphasis on TR-069, YANG data modelling for FTTdp, NFV and SDN.

He has already created a Software Advisory Group (SAG) comprising volunteers from Forum member companies, which met for the first time in Portsmouth. The Group will provide a center of software expertise and will act as a “think tank” within the Forum, as well as advising on engagements with external SDOs and Open Source (OS) organizations. It will also be looking at the processes needed to enable the Broadband Forum to work successfully as a software-focused organization - for example, using tools such as GitHub to allow agile creation, review, publication and updating of software deliverables.

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## **Working Group updates from Portsmouth, New Hampshire**

### **Data center interconnection boosted by IP/MPLS and Core**

The important need to boost data center interconnection and all the benefits that it can bring to operators - from broader reach video distribution to significantly higher throughput mobile backhaul - has been the focus of the IP/MPLS & Core Group, which is now concentrating on remaining outstanding issues. The work, Ethernet Services using BGP MPLS EVPN (WT-350), is not only a scalable way to provide MEF Ethernet services, but delivers faster ubiquitous services for operators and will support them to deploy more LTE in more locations and help the smooth delivery of IoT.

Operators looking to either deliver cellular coverage to new locations, or to boost poor current signal quality, will also benefit from progress being made on Technical Specifications for MPLS in Mobile Backhaul Networks (TR-221, Amendment 2).

### **End to End Architecture and FAN close in on giving the market the key to ultra high speed access**

Important developments within Fiber to the Distribution Point (WT-301) has seen the work progress to Final Ballot, paving the way for operators to enable a new generation of very high speed access. This is done by moving the fiber termination point closer to the customer, up to and including the distribution point, in a new network node called the DPU. The architecture and DPU functionality having been specified, the management aspects are now being worked on in earnest.

As WT-301 completes its Straw Ballot, the Network Enhanced Residential Gateway (WT-317) -the NERG - has entered. The NERG concept involves relocating some of the Residential Gateway functions in the operator’s network. This allows new service creation to be done there, avoiding the need to upgrade the Residential Gateway in the home, which saves operators time, and also allows them to introduce niche services, and try out new ones very quickly. Three key issues were raised in Straw Ballot, but all three were successfully resolved during the meeting. The business version of WT-317, the Virtual Business Gateway (WT-328), is also making good progress.

The transition of the SDN work (currently underway in End to End) to a new Work Area was facilitated by a very productive joint session. Migration to NFV, and architectural modelling of the integration of NFV into broadband networks is also being handled in Migrating to NFV in the context of WT-178 (WT-345) and a Framework for Virtualization (WT-359). As NFV technology is still in its infancy, this work will help operators not just with the migration to NFV based broadband services, but also facilitate NFV’s seamless integration with existing practices.

Hybrid Access for Broadband Networks (WT-348) has made considerable progress since the last meeting. This WT deals with automatically combining wireless and wireline access, enabling the footprint of various services to be extended, particularly into hard to serve areas. It is nearing technical completion.

Public WiFi access is an important topic around the world and the group is currently working on streamlining access to WiFi hotspots through Public WiFi Access (WT-321). Now in Straw Ballot, the final document will give service providers an efficient, flexible and scalable architecture, access to more hotspots, and a public WiFi service where Web-based login will no longer be required.

### **G.fast gets faster**

Moving further towards the delivery of the FAST Certification Test Plan (ID-337) and program was again the primary focus for the Group, chaired by Les Brown and vice-chaired by Lincoln Lavoie and Massimo Sorbara. The week before the meeting, the first equipment manufacturer plugfest had been staged at the nearby UNH test facilities, with the report expected into the Forum later this month. This was the fourth actual plugfest - the previous three being for chipset vendors and the next has been set for July 27 at UNH, again focused on the chipset vendors.

Staying with G.fast, later this month the Forum will be releasing the G.fast certification program requirements document and will be looking for companies to express interest in participating in the beta trials program for the certification. The official beta trial/testing is expected to begin in the early October timeframe.

The Universal PLC Test Methodology document is going to final ballot out of this meeting. This is a baseline test plan to give the ability to service providers to measure the performance, features, and functionality of in home networking technologies.

### **BroadbandHome working towards a universal service platform**

The Broadband Home Working Group met for a special face to face meeting at QA Cafe's offices in Portsmouth days before the Q2 meeting. This meeting was focused on the ongoing work developing unified IoT control and device management scheme, leveraging their expertise and customer base from its popular TR-069 protocol, the provisioning tool that has revolutionized broadband device management for telecommunications operators worldwide.

Out of this meeting came consensus for a new system, that functions as a universal and integrated services platform for activating, managing, monitoring, diagnosing, and controlling network enabled services. It consists of a modular architecture, protocol, and information models, together with supporting implementation guidance, test plans, and informative materials, with a target for its first deliverables in Q2 of 2016.

Meanwhile, the group continued its improvements to TR-069, a protocol that has now reached nearly 300 million devices worldwide and growing. To continue that pace, the Working Group has been adding more features to support the deployment and management of the IoT, including adding extensions for TR-069 Auto Configuration Servers to interface with other management systems at the M2M service layer.

In addition, it is nearing completion of the latest version of the extensive Device:2 data model, adding support for IoT enabling features such as MQTT interfaces and support for HTTP based bulk data collection.

### **Operations and Network Management moves YANG data model forward**

The Group had a positive session on the YANG Data Models for G.fast and VDSL (WT-355) and had already made progress prior to the meeting. It is now looking at how best to

release any models to industry in a way that additional modules can be added quickly and efficiently.

Joint work on the Management Architecture and Requirements for FttDP (WT-318) has reached a major decision point concerning the future of the three documents contained within the FTTdp area: Fiber to the Distribution Point (WTs 301), Management Architecture and Requirements for FttDP (WT-318) and YANG Data Models for G.fast & VDSL2 (WT-355).

Proposals at this meeting have been put forward to decisively re-shape the documents and the end agreement as to the future of WT-318 will be decided at a future conference call. This will enable the Forum to most efficiently release the requirements for FTTdp to the industry - a keenly awaited moment.

Also covered was progressing Alternate Management Path for Broadband (WT-356), which features an alternative management path to enable troubleshooting when a customer's primary broadband connection is lost.

**Fiber Access Network brings fiber closer to the customer**

The much awaited FTTdp architecture and requirements document Fiber to the Distribution Point (WT-301) reached final ballot at the meeting - meaning it will soon be available to service providers worldwide who are looking to bring fiber closer to the customer as well as utilizing the benefits of new copper technologies such as G.fast.

There was good progress on Multi-wavelength PON Inter-Channel-Termination Protocol (ICTP) Specification (WT-352), which enables the ability of NGPON2 systems to hand off control of ONUs across wavelengths, allowing more flexibility in the access network.

The Study Document on Architecture & Technical Requirements for PON-based Mobile Backhaul networks (SD-331) moved into working text status. This is an important document as it will define how to deploy mobile backhaul over PON's asymmetric architecture.

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**Documents approved include:**

- ADSL2/2plus Functionality Test Plan (TR-105 Issue 2 Amendment 2)
- Abstract Test Suite for MPLS OAM (TR-292)
- Achieving Packet Network Optimization using DWDM Interfaces (TR-319 Base)
- Achieving Packet Network Optimization using DWDM Interfaces - Physically Integrated Model (TR-319 Part A)

*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 and returning Members!**  
Spirent Communications, Simpler Networks and Tessares.

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**Events Calendar**

**2015 Broadband Forum Meetings:**

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](mailto:ccorby@broadband-forum.org).

**Forthcoming Industry Events:**

[Optinet China](#), June 16-17, June, Beijing, China

[TNO's Ultrafast Broadband Seminar](#), 16-19 June, The Hague, Netherlands

[IIR Packet Optical Convergence](#), September 15-17, Madrid, Spain

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**Contact information**

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