BBF Areas of Focus and Innovation

**Connected Home**
- TR-069 (CWMP)
- User Services Platform (USP)
- Device Requirements
- Wi-Fi Performance

**5G**
- 5G FMC
- 5G Transport

**Cloud**
- CloudCO
- Virtualization
- Disaggregation
- FANS

**Access/Next**
- Fiber
- Copper
- Performance Measurement & Analysis
Connected Home Open Standards

**Device Requirements**
- Residential Gateway Requirements (TR-124)
- Device Data Models (TR-181 and others)

**Device Management**
- CPE WAN Management Protocol, CWMP (TR-069)
- User Services Platform, USP (TR-369)
Connected Home Certification and Performance Testing

Management Protocol Certifications
- BBF.069, Self-Certification Program for TR-069
- BBF.369, Self-Certification Program for USP

Wi-Fi Performance
- TR-398 Wi-Fi In-Premises Performance Testing
Connected Home Open Broadband Projects

**OB-USP-A**
- Reference implementation for USP Agent

**OB-MAP**
- prplMesh data in TR-181 data model
- Extensions to IEEE 1905.1 - carrier-grade capabilities enhancing EasyMesh in operator deployments
BBF/5G Open Standards: Phase 1

- 5G Wireless Wireline Convergence Architecture (TR-470)
- Residential Gateway Requirements (TR-124i6)
- Access Gateway Function (TR-456)
BBF/5G Open Standards: Phase 2

- Residential Gateway: Hybrid Access (TR-124i7)
- Fixed/Mobile Interworking Function (WT-457)
- AGF Control & User Plane Separation (TR-456i2, WT-458)
BBF/5G Open Standards: Transport & Slicing

- 5G Transport Architecture (WT-521)
- Mobile Transport Network Slice instance Management Interfaces (WT-522)
BBF/5G Open Broadband Projects

OB-5WWC
- Open-source control and user plane for 5G-RGs
Cloud Open Standards: CloudCO

- Reference Architectural Framework (TR-384)
- Use Cases and Scenarios (TR-416)
- Migration and Coexistence (TR-408)
- Interfaces between CloudCO Functional Modules (TR-411)
- Management and Control Interfaces (TR-413)
- Subscriber Session Steering (WT-474)
- NETCONF requirements for Access Nodes and Broadband Access Abstraction (TR-435)
- YANG Modules for Access Network Map & Equipment Inventory (TR-454)
- Test Cases for Cloud CO Applications (TR-412)
Cloud Open Standards: Cloud Components

**Metro Compute Networking**
- Use Cases and High Level Requirements (WT-466)
- Architecture, Functional Modules and Interface Definitions (WT-491)

**Automated Intelligent Management**
- Access & Home Network O&M Automation/Intelligence (TR-436)
- Interfaces for Automated Intelligent Management (WT-486)
Cloud Open Standards: Broadband Network Gateway

- Control and User Plane Separation for a Disaggregated BNG (TR-459)
- Carrier Grade NAT for Disaggregated BNG (WT-459.2)
- IPTV Multicast for Disaggregated BNG (WT-459.3)
- Disaggregated BNG for Wired Access (WT-487)
Cloud Open Standards: Access Nodes

- Broadband Access Abstraction (WT-484)
- Access Node Hardware Disaggregation (WT-477)
- vOMCI Interface (WT-451)
Cloud Open Broadband Projects

**OB-BAA**
- Reference implementation southbound abstraction layer for CloudCO

Diagram:
- Access MP Function
- Access & D-OLT CP Function
- D-OLT
- BAA
- Traditional & Disaggregated Access PNFs
Cloud Open Standards: Fixed Access Network Sharing

- FANS Architecture and Nodal Requirements (TR-370)
- Access Network Sharing Interfaces (TR-386)
Access/Next Open Standards: Fiber

**ITU-T PON Architecture**
- ITU-T PON with TR-178 (TR-280)

**PON Management**
- ITU-T PON YANG Modules (TR-385)
- EPON YANG Modules (WT-431)
- Multi-wavelength PON Inter-Channel Termination Protocol (ICTP) (TR-352)
- PON Abstraction Interface for time-critical application (TR-402/TR-403)
Access/Next Certification Testing: Fiber

- ONU Certification (BBF.247)
- TC Layer Interoperability Test Plan (TR-309)
- PON PMD Layer Conformance Test Plan (TR-423)
Access/Next Open Standards: Copper

- Architecture and Requirements for Fiber to the Distribution Point (TR-301)
- Fiber Access Extension over Existing Copper Infrastructure (TR-419)
- Architecture and Requirements for Home Distribution Networks (WT-488)
- Broadband Copper Cable Models (TR-285)
Access/Next Certification and Performance Testing: Copper

- Gfast Certification (BBF.337)
- Gfast performance testing (TP-380)
- Reverse Power Feed testing (TP-338)
- G.hn Access Performance Test Plan (WT-476)
Access/Next Open Standards: Quality Attenuation

- Quality Attenuation Measurement Architecture and Requirements (TR-452.1)
- Quality Attenuation Measurements using Active Test Protocols (WT-452.2)
- Quality Attenuation Measurement using STAMP (WT-390.2 Amendment 1)
Access/Next Open Standards: Performance

- Performance Measurement from IP Edge to Customer Equipment using TWAMP Light (TR-390)
- Performance Measurement from IP Edge to Customer Equipment using STAMP (TR-390.2)
- IP-Layer Capacity Metrics and Measurements (TR-471)
Access/Next Open Broadband Projects

**OB-UDPST (UDP Speed Test)**

- Reference implementation of TR-471
- More accurate than TCP-based throughput tests, esp. at Gigabit speeds