



# 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

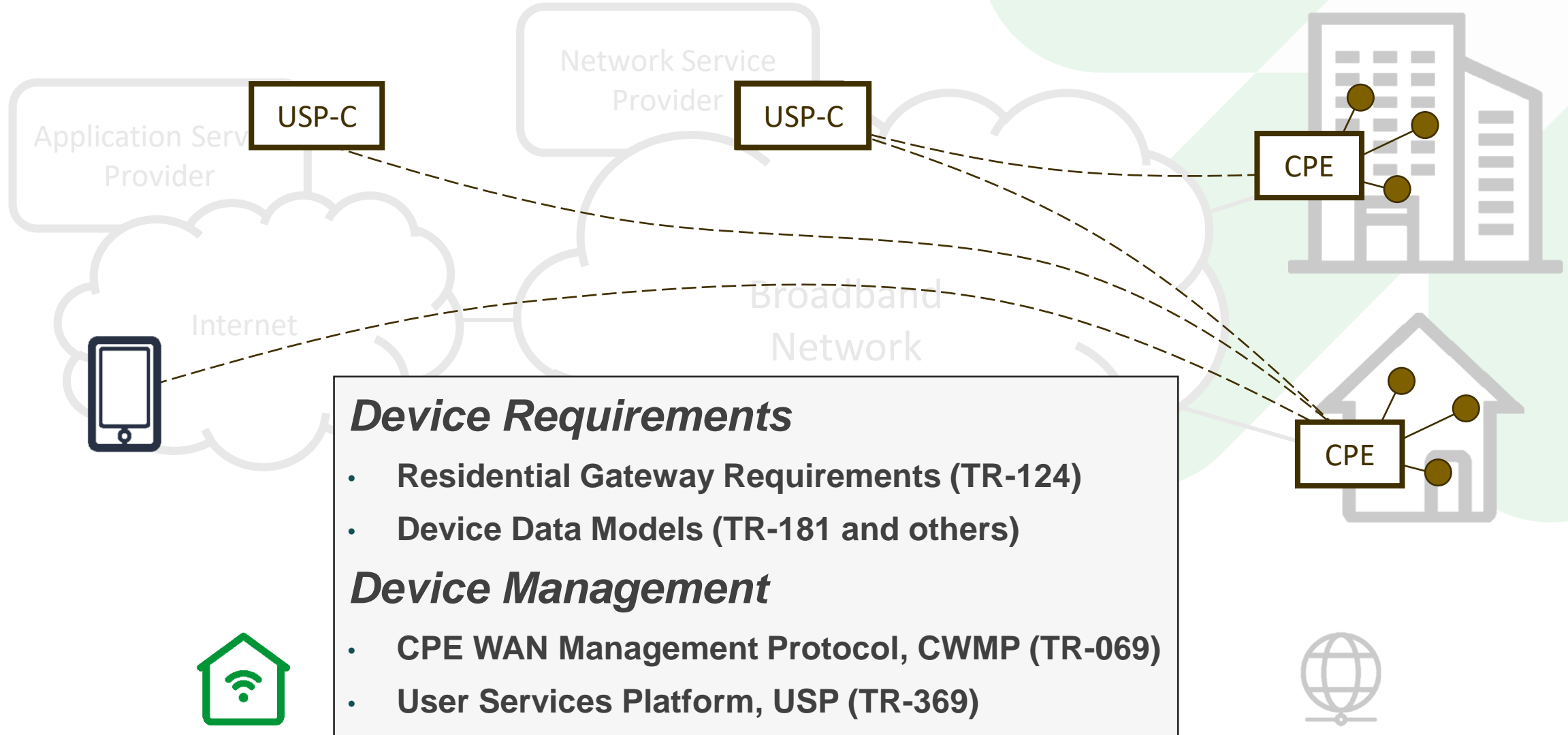
- *CloudCO*
- *Virtualization*
- *Disaggregation*
- *FANS*



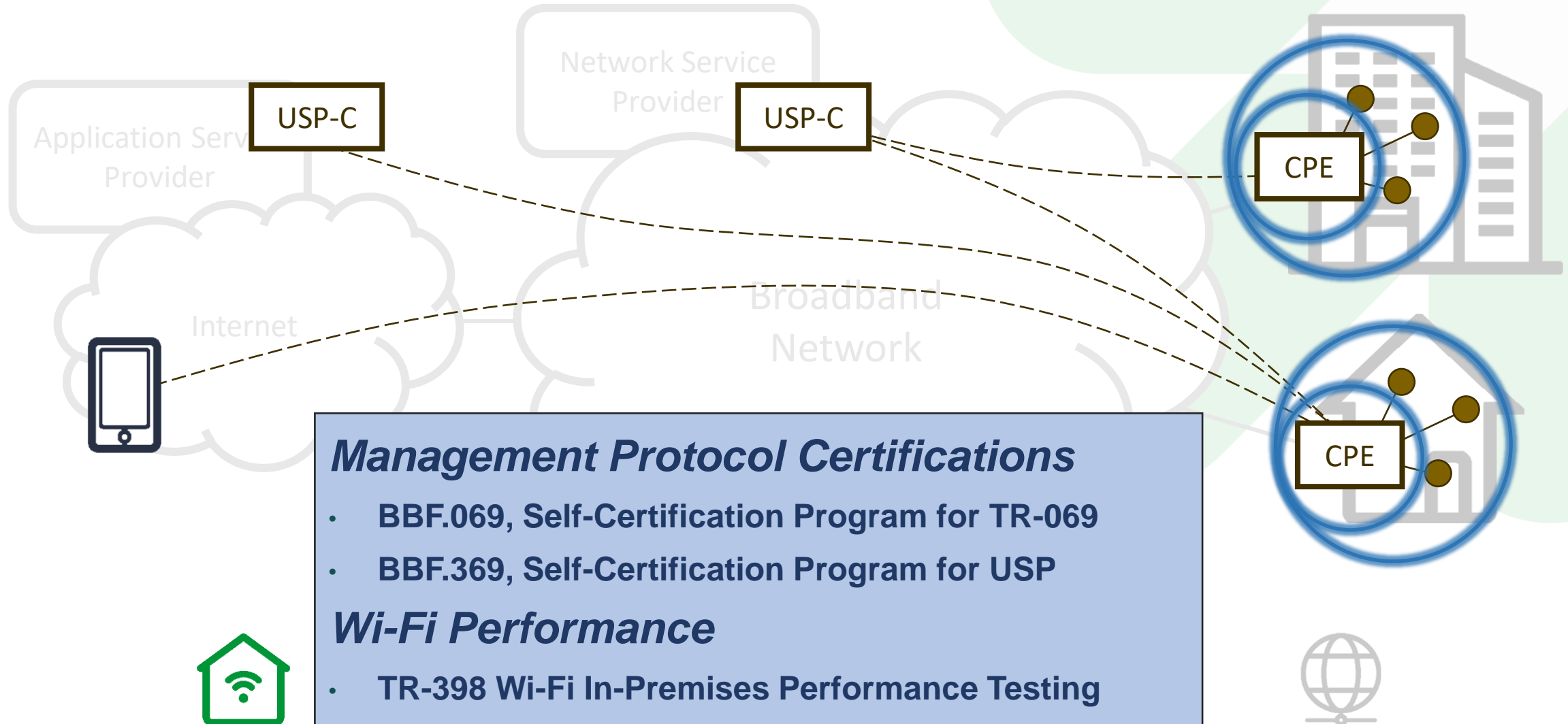
## Access/Next

- *Fiber*
- *Copper*
- *Performance Measurement & Analysis*

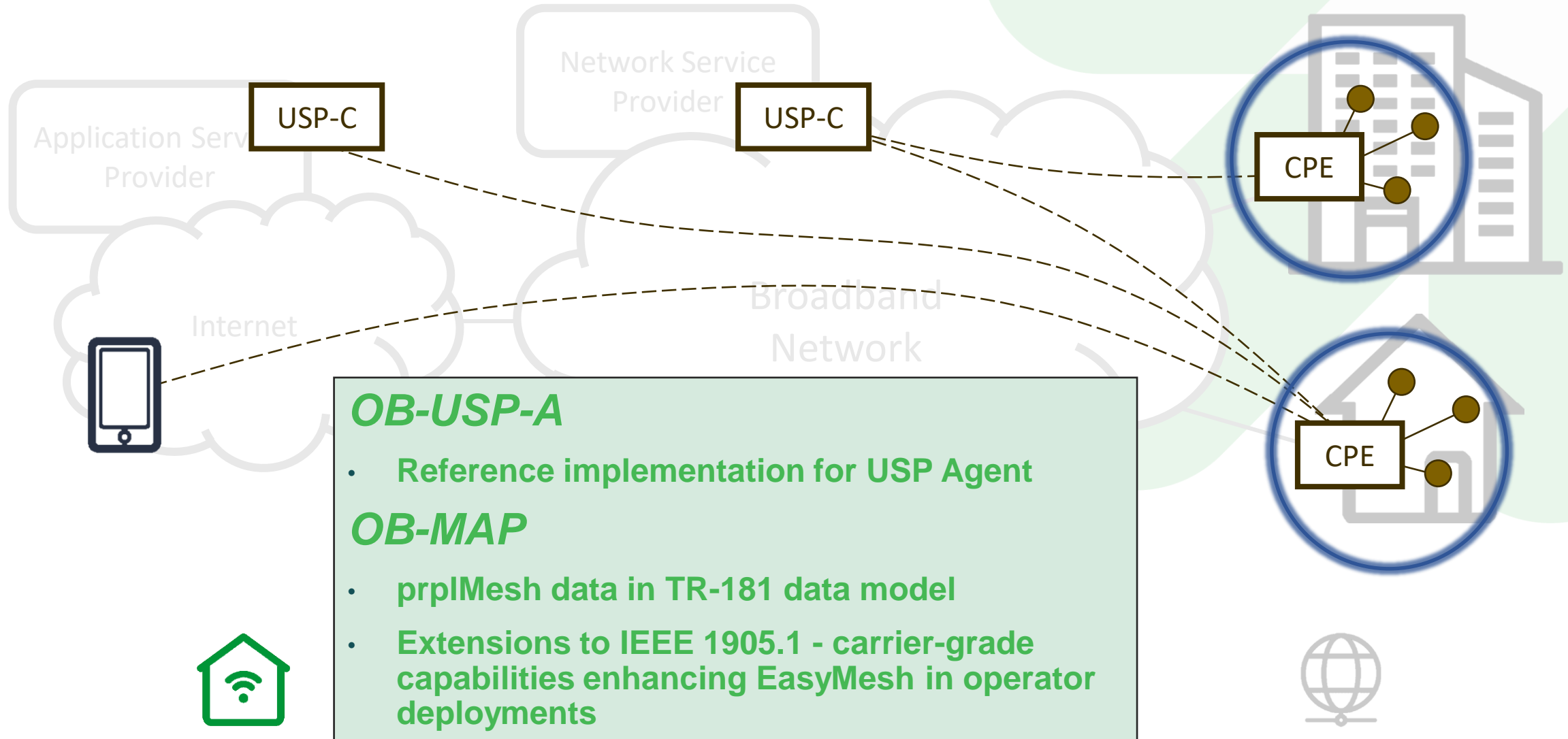
# Connected Home Open Standards



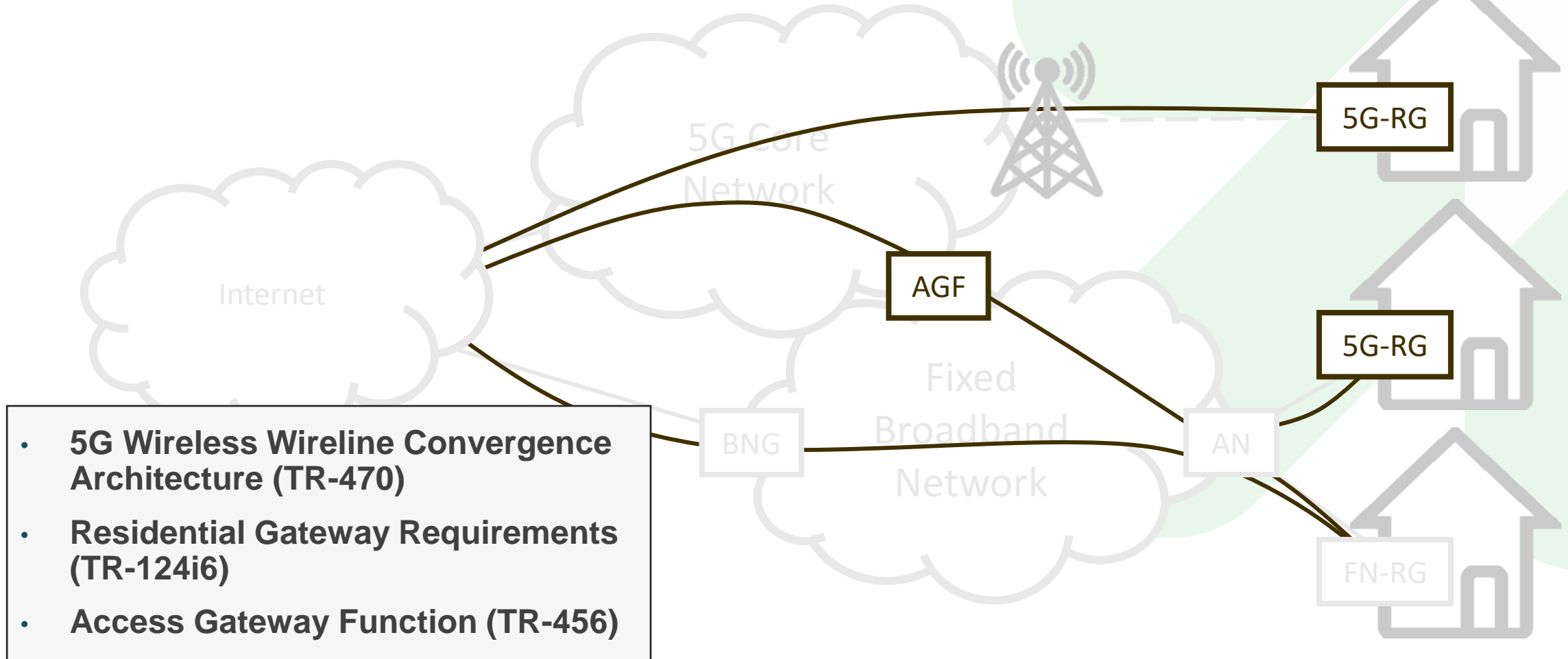
# Connected Home Certification and Performance Testing



# Connected Home Open Broadband Projects



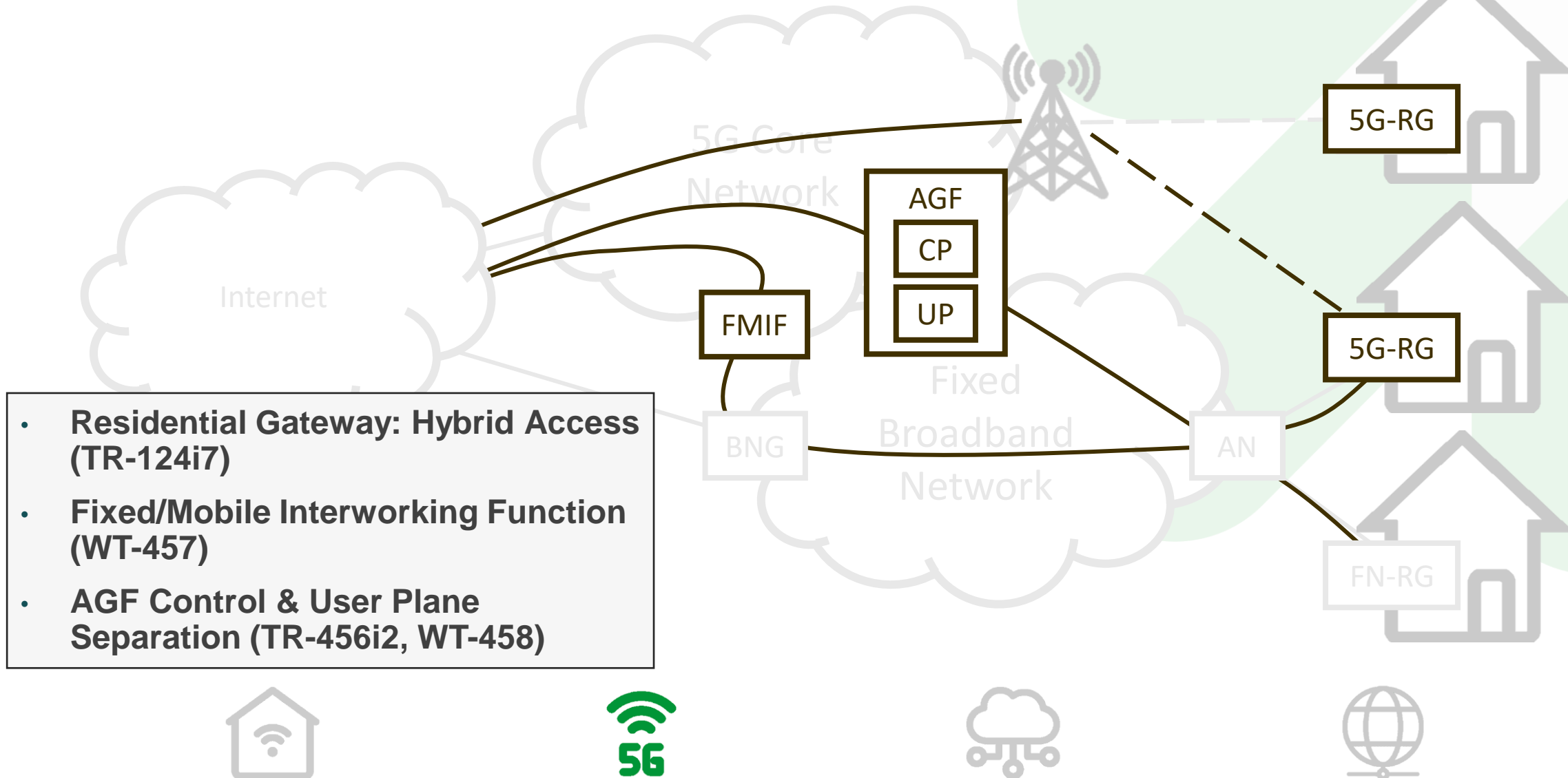
# BBF/5G Open Standards: Phase 1



- **5G Wireless Wireline Convergence Architecture (TR-470)**
- **Residential Gateway Requirements (TR-124i6)**
- **Access Gateway Function (TR-456)**



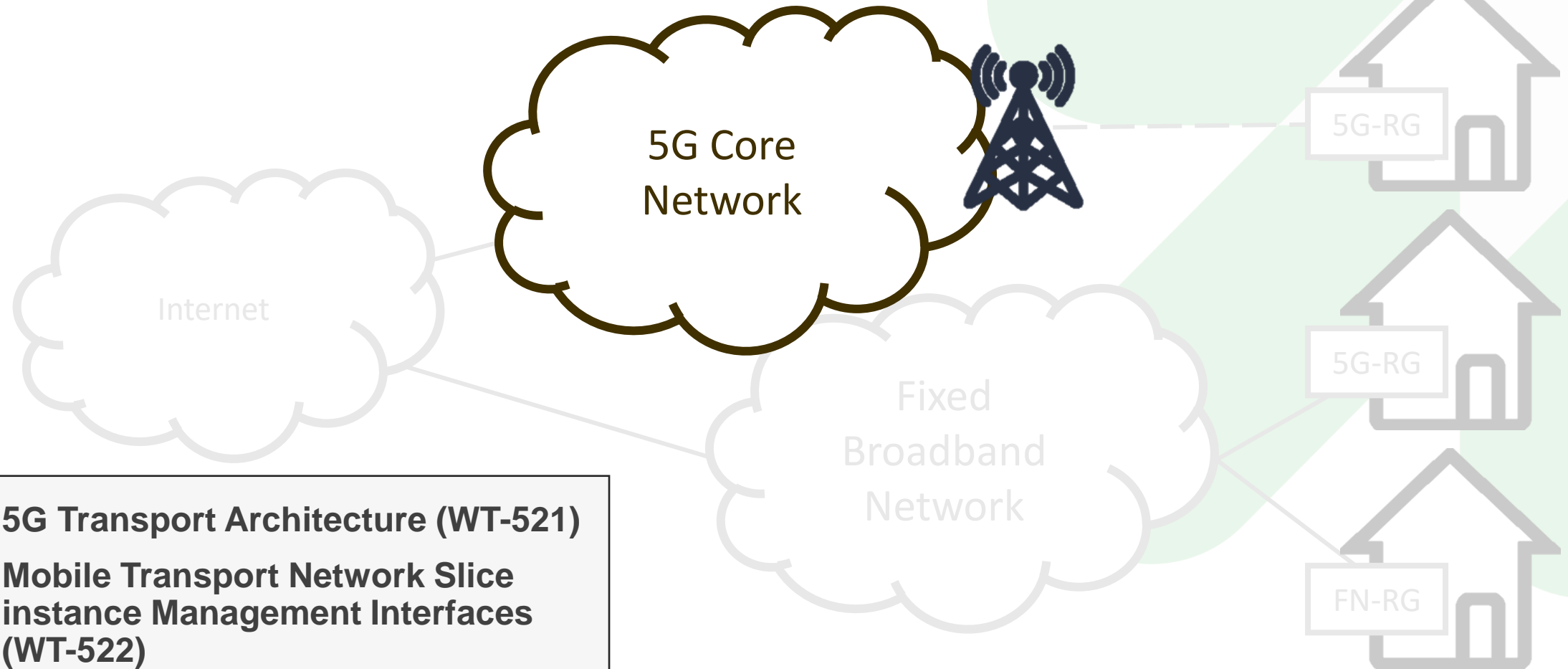
# BBF/5G Open Standards: Phase 2



- 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

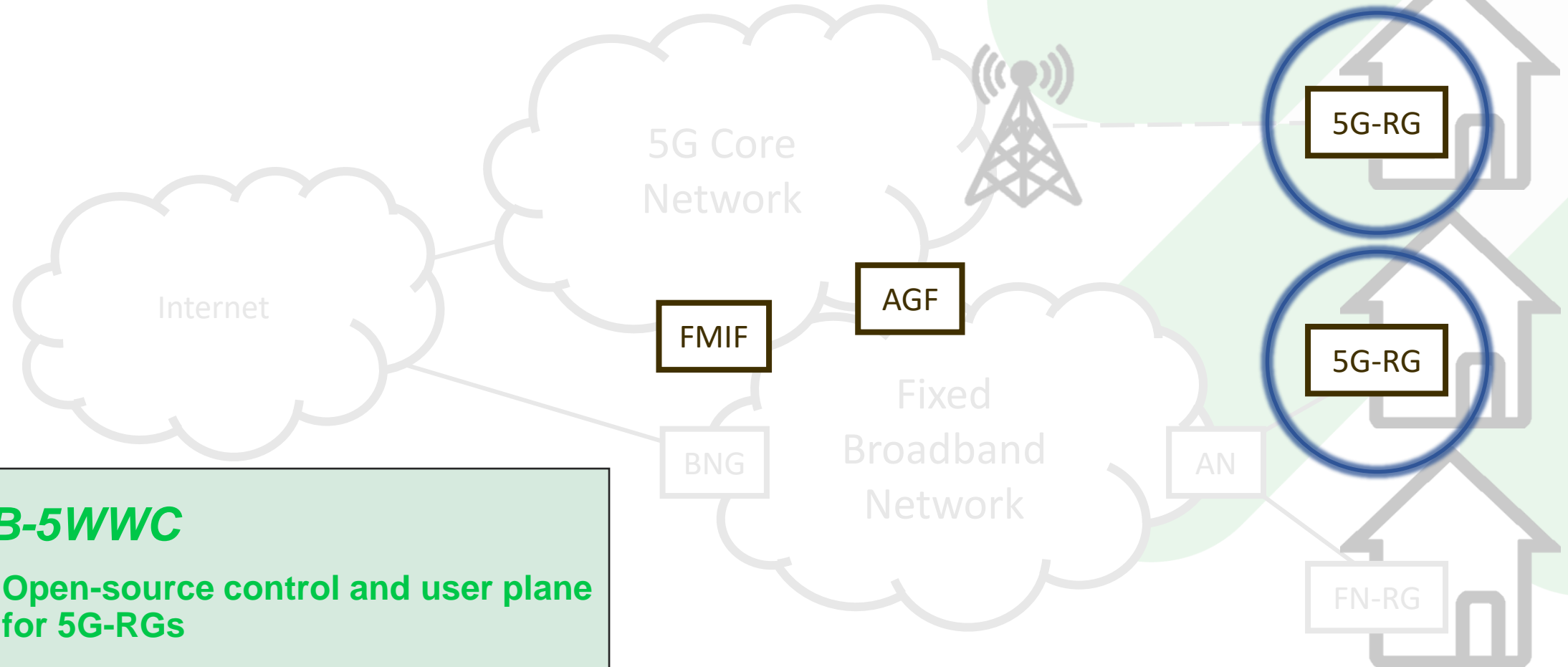


- **5G Transport Architecture (WT-521)**
- **Mobile Transport Network Slice instance Management Interfaces (WT-522)**





# 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)

Internet



# Cloud Open Standards: Cloud Components

## ***Metro Compute Networking***

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

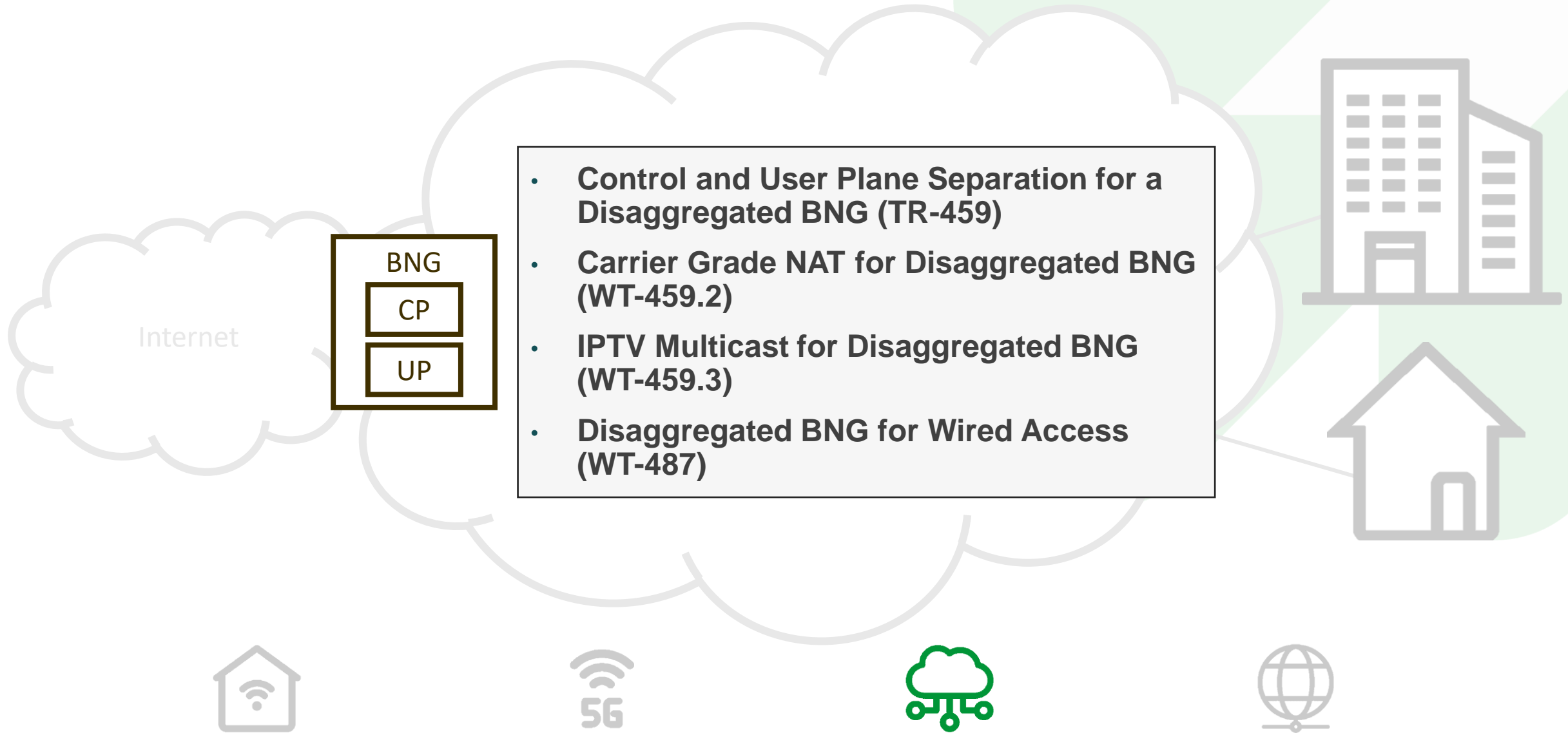
## ***Automated Intelligent Management***

- Access & Home Network O&M Automation/Intelligence (TR-436)
- Interfaces for Automated Intelligent Management (WT-486)

Internet

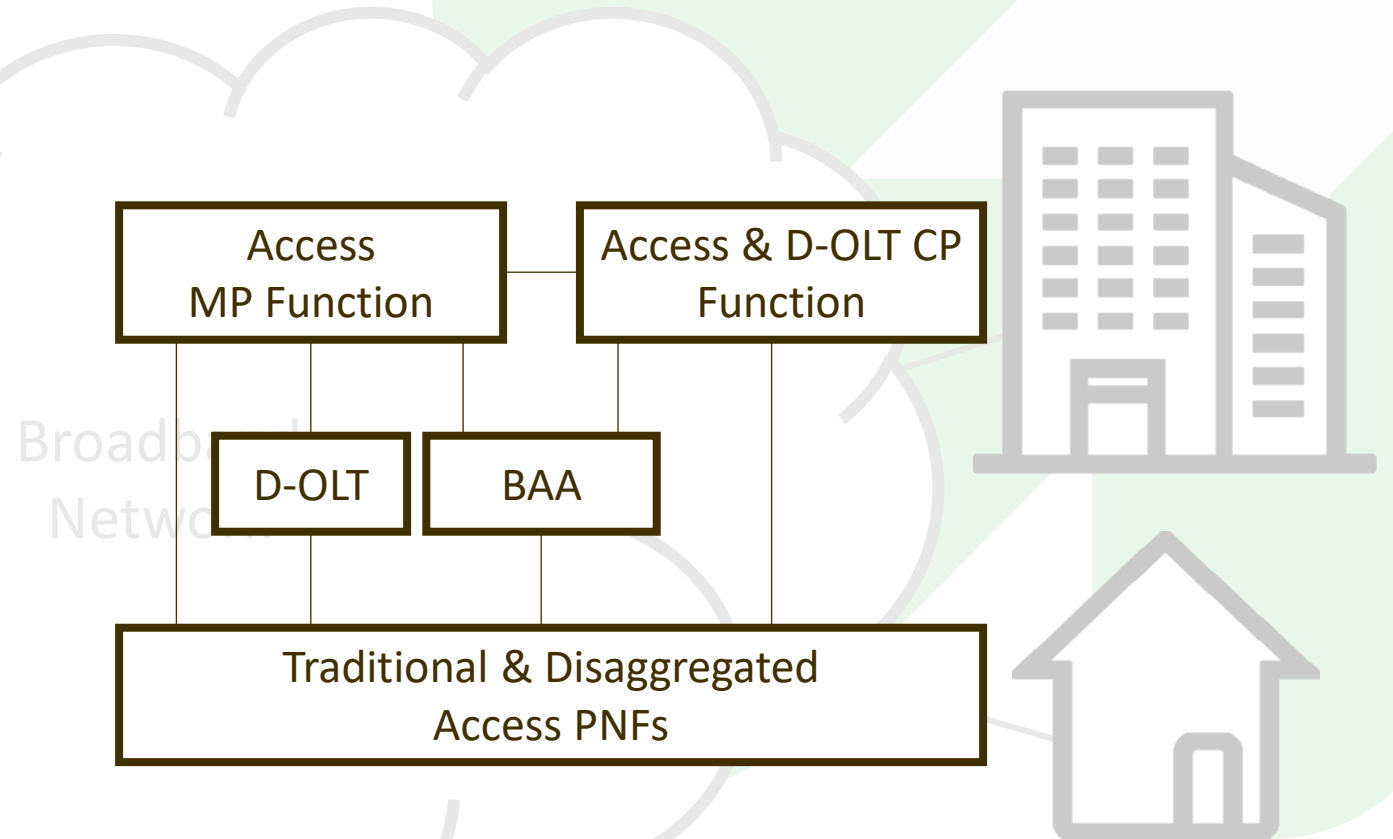


# Cloud Open Standards: Broadband Network Gateway



# Cloud Open Standards: Access Nodes

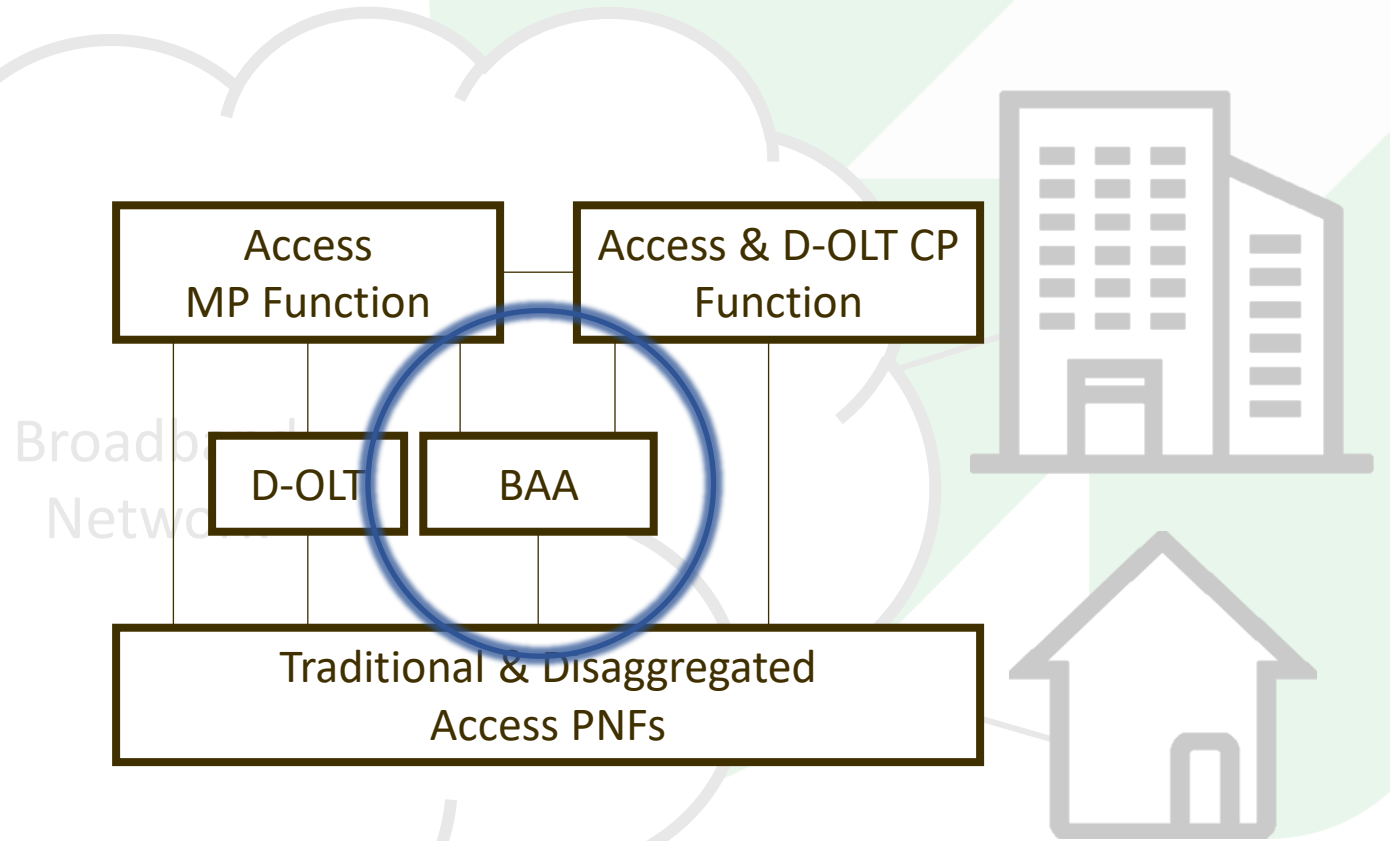
- **Broadband Access Abstraction (WT-484)**
- **Access Node Hardware Disaggregation (WT-477)**
- **vOMCI Interface (WT-451)**



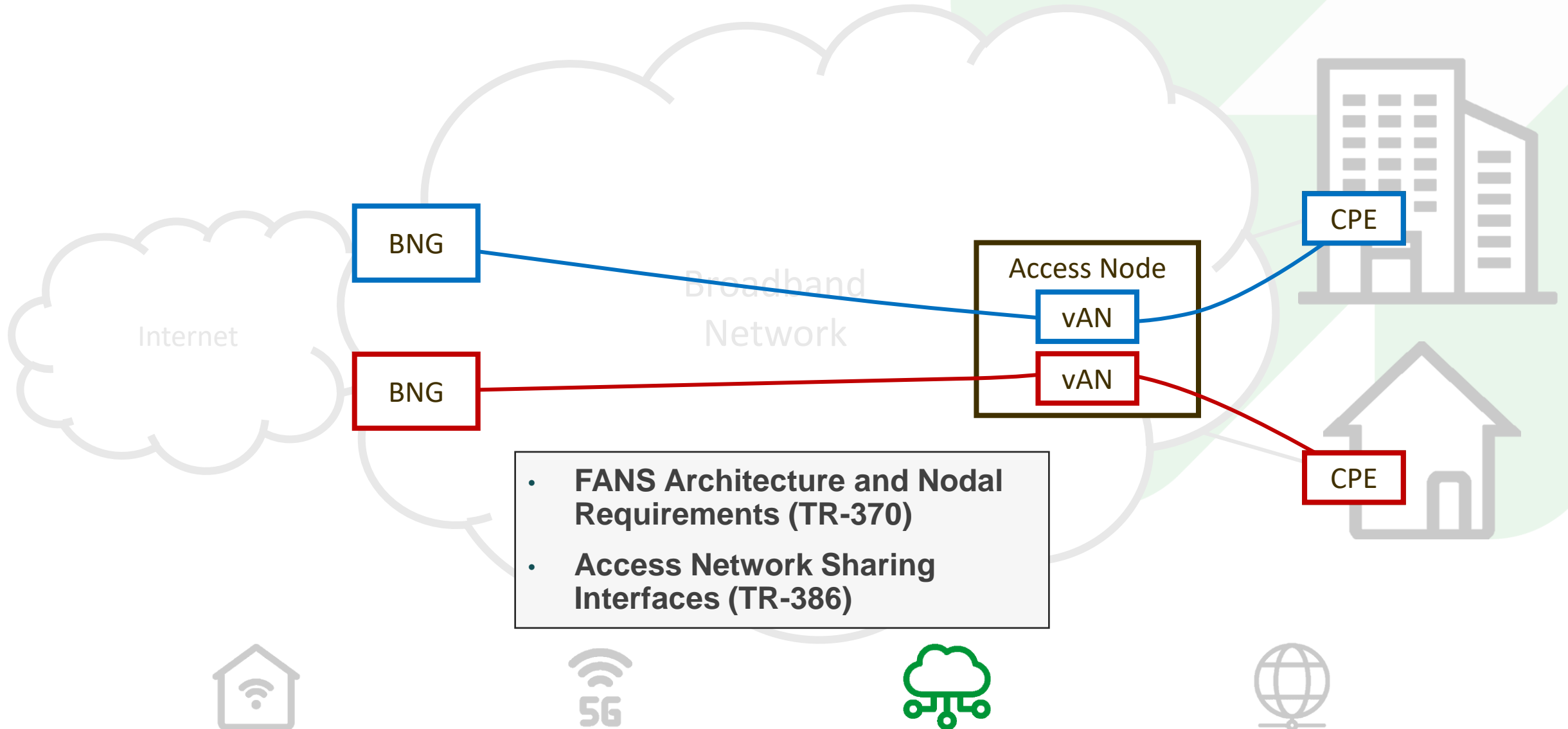
# Cloud Open Broadband Projects

## OB-BAA

- Reference implementation southbound abstraction layer for CloudCO



# Cloud Open Standards: Fixed Access Network Sharing



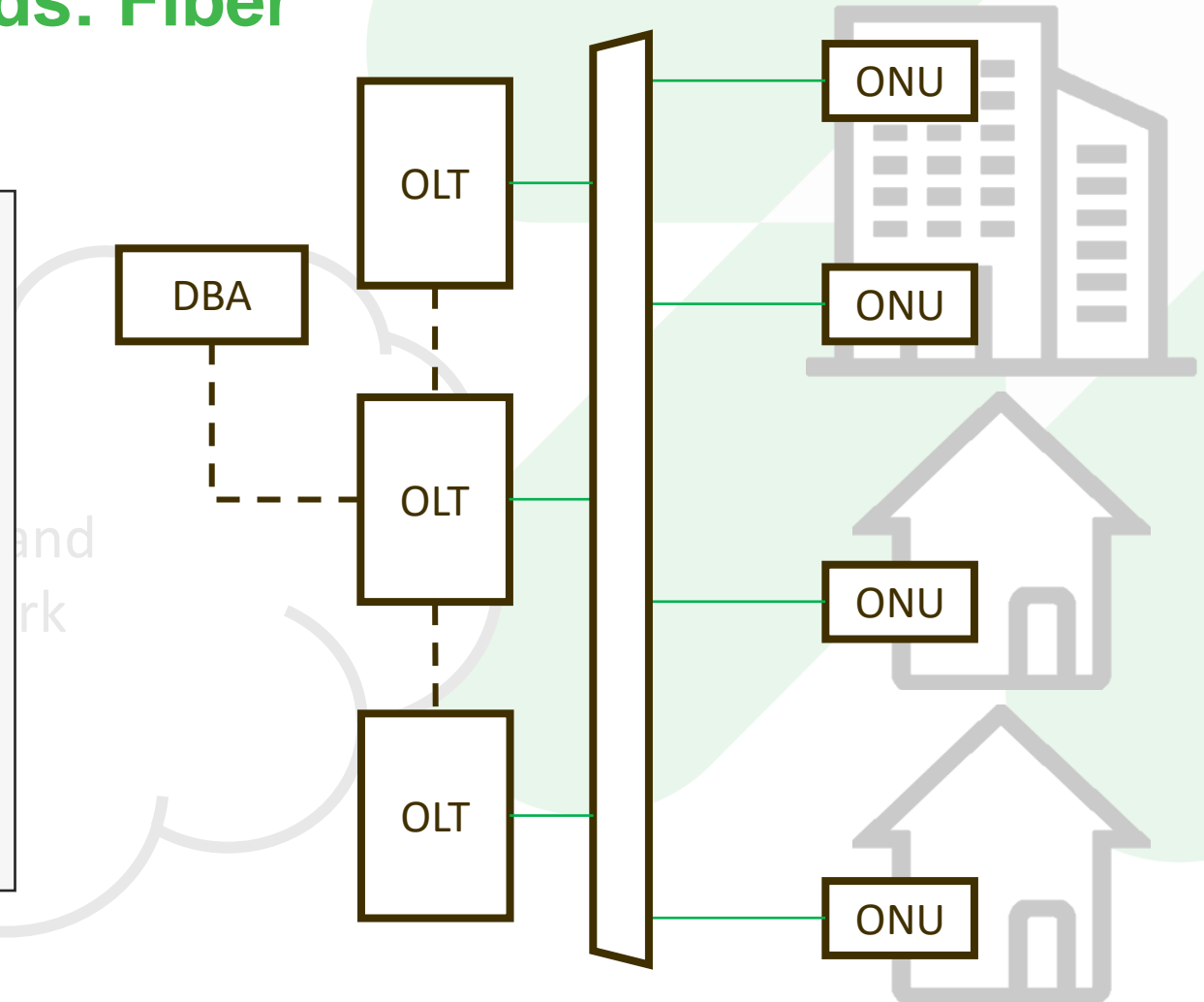
# Access/Next Open Standards: Fiber

## ***ITU-T PON Architecture***

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

## ***PON Management***

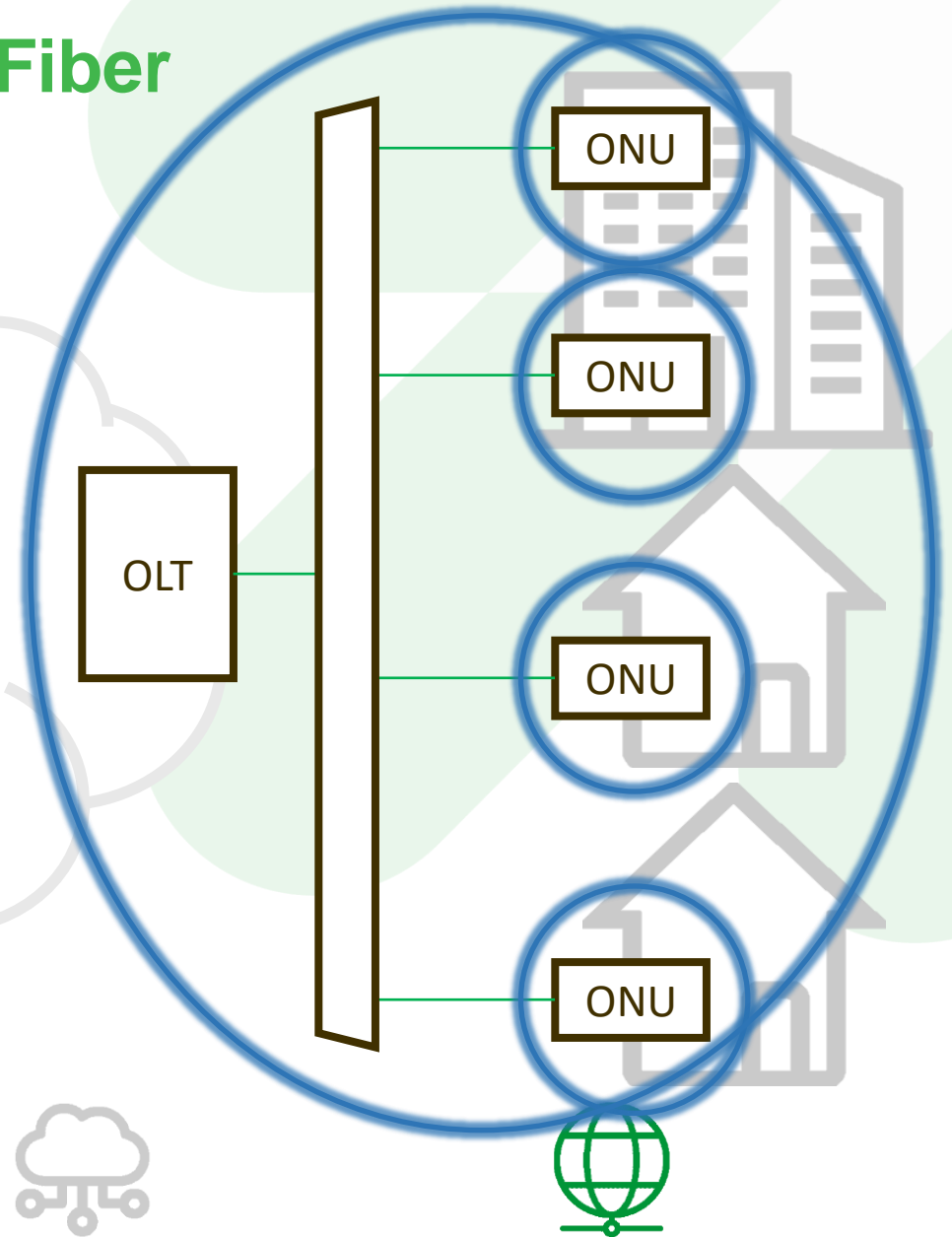
- ITU-T PON YANG Modules (TR-385)
- EPON YANG Modules (WT-431)
- Multi-wavelength PON Inter-Channel Termination Protocol (ICTP) (TR-352)
- PON Abstraction Interface for time-critical application (TR-402/TR-403)





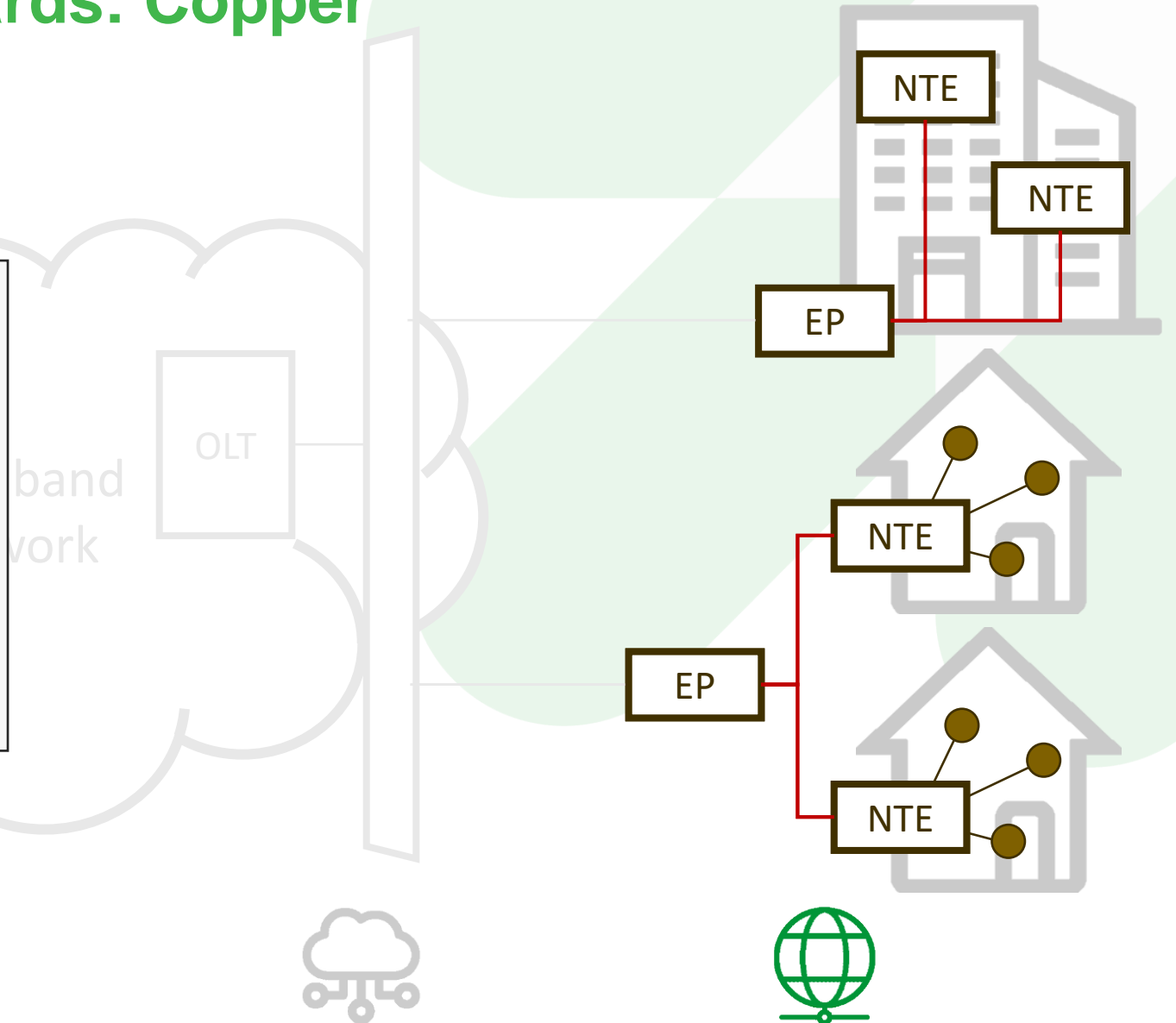
# Access/Next Certification Testing : Fiber

- ONU Certification (BBF.247)
- TC Layer Interoperability Test Plan (TR-309)
- PON PMD Layer Conformance Test Plan (TR-423)



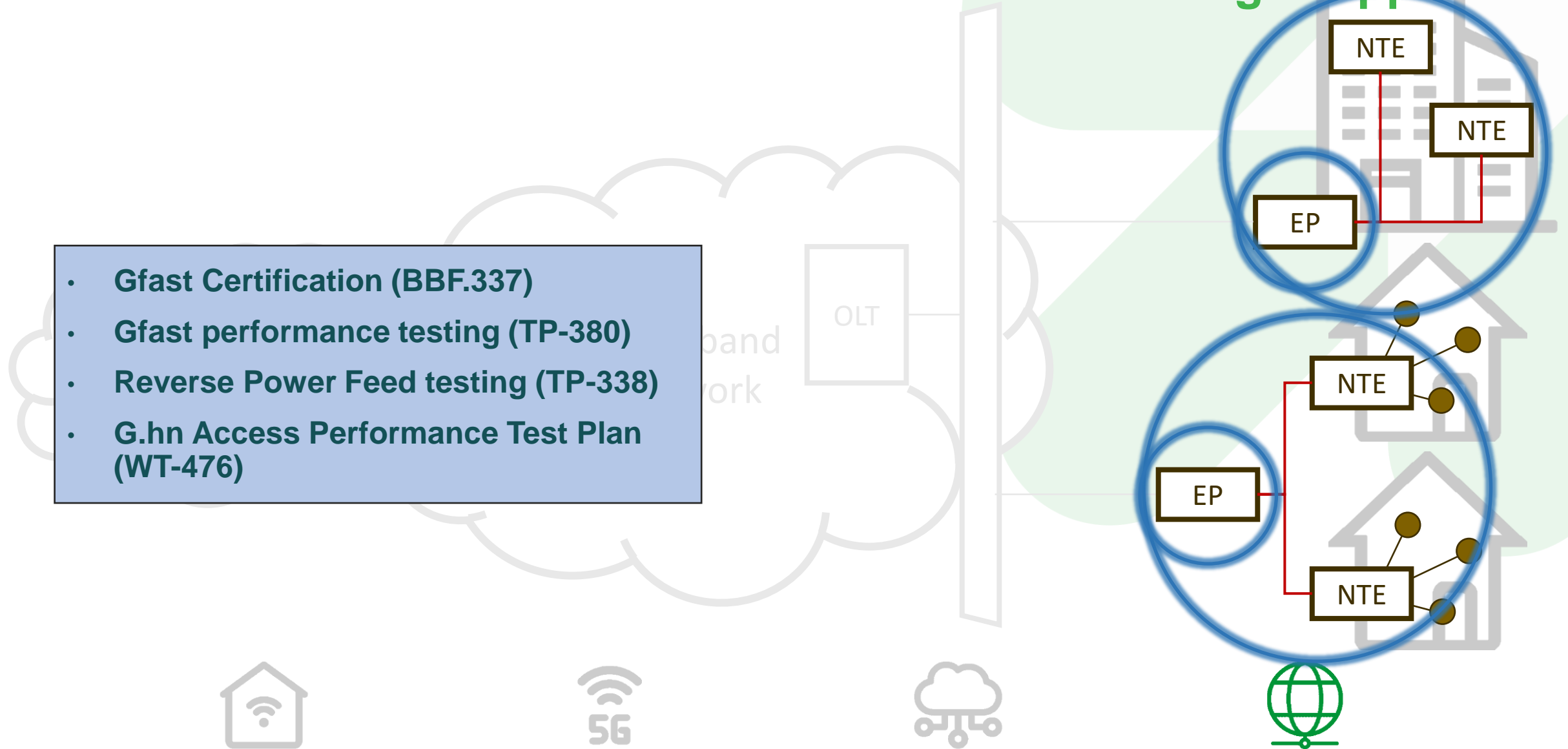
# Access/Next Open Standards: Copper

- 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)

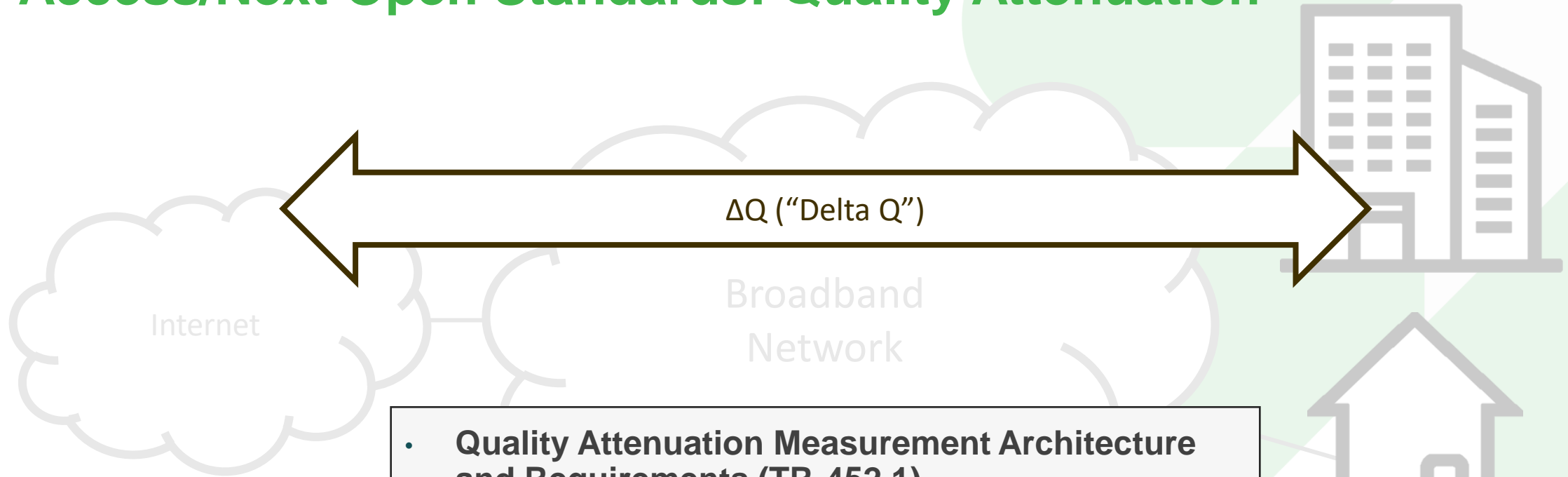


# Access/Next Certification and Performance Testing: Copper

- Gfast Certification (BBF.337)
- Gfast performance testing (TP-380)
- Reverse Power Feed testing (TP-338)
- G.hn Access Performance Test Plan (WT-476)



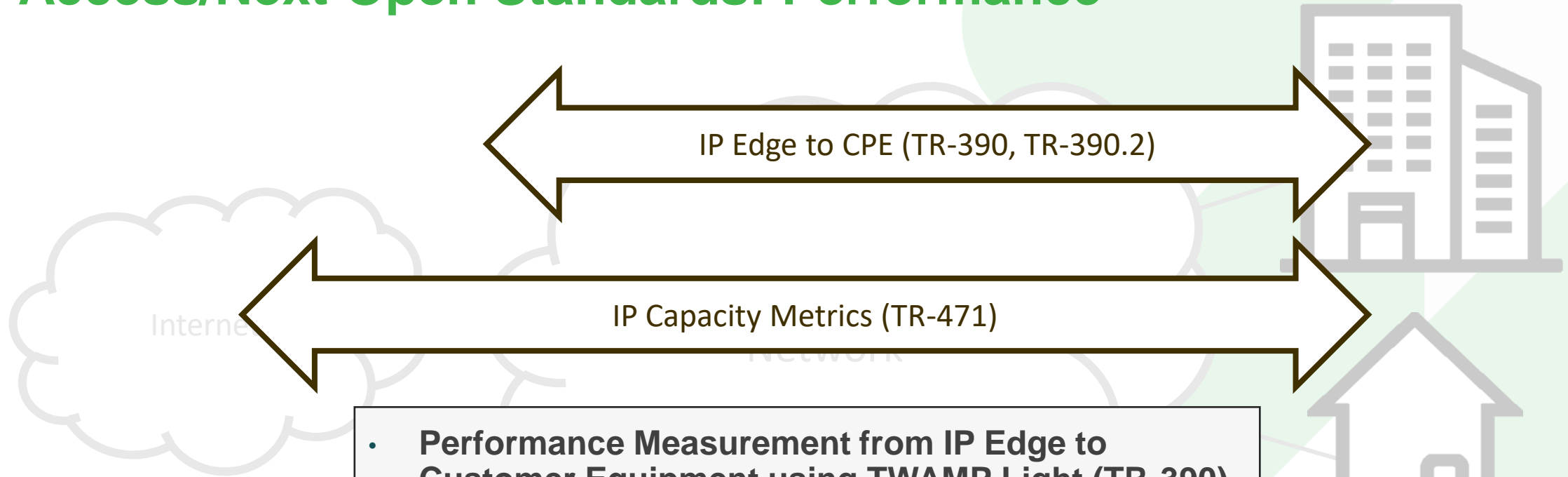
# Access/Next Open Standards: Quality Attenuation



- **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)**



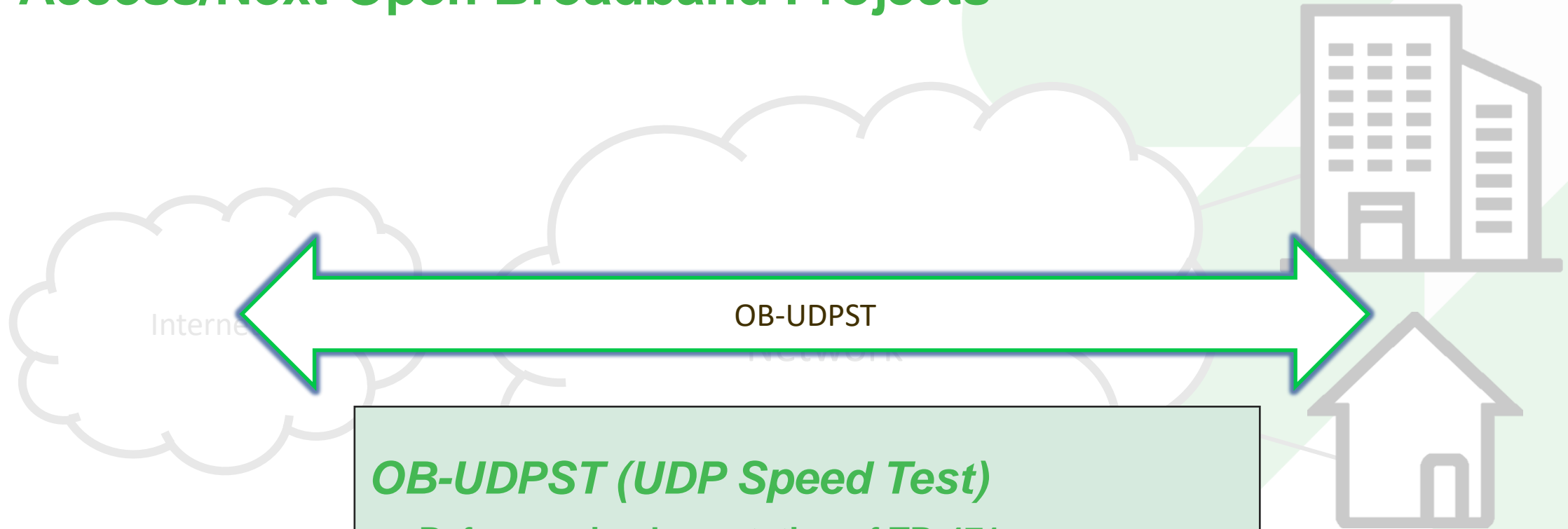
# Access/Next Open Standards: Performance



- 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

