

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

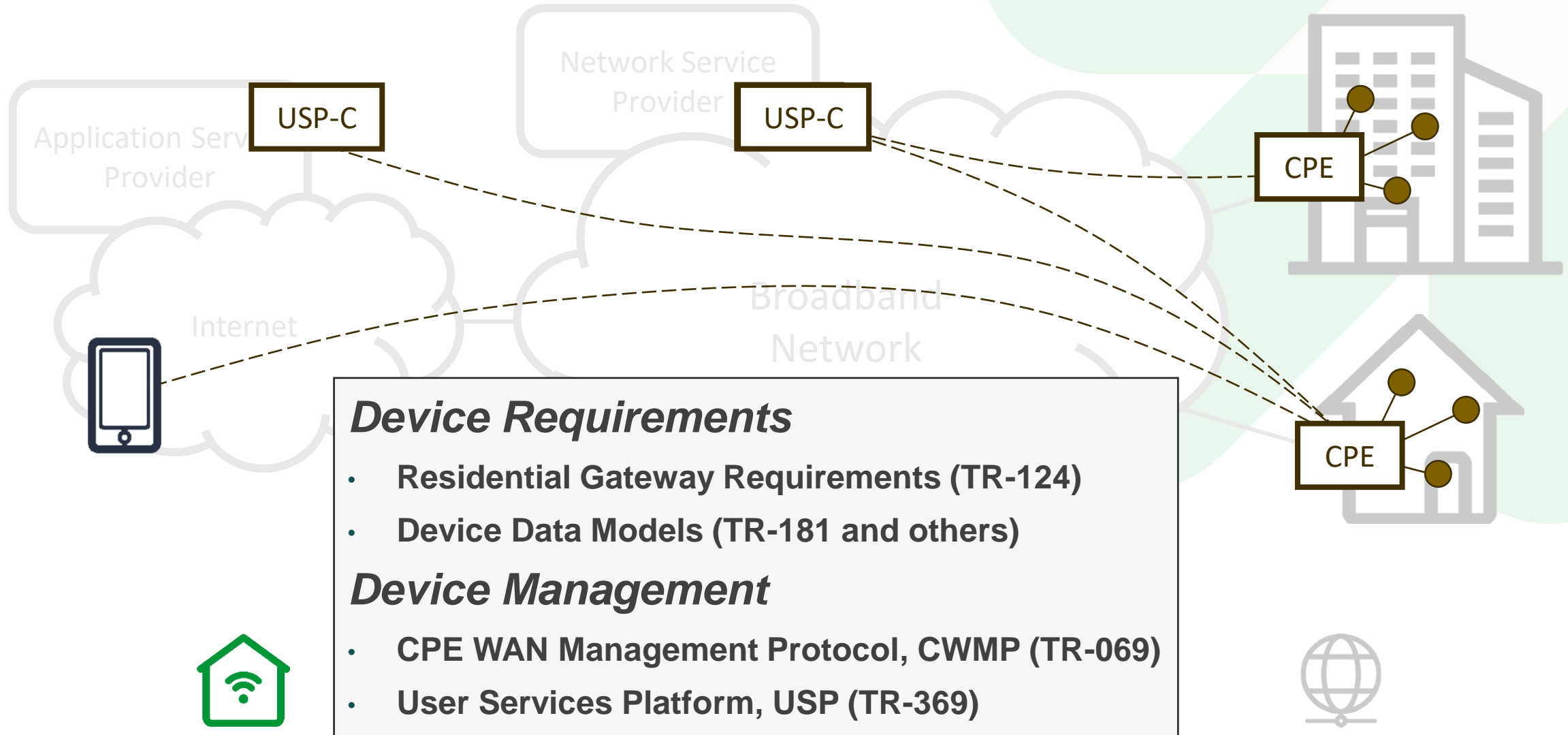
- *CloudCO*
- *Virtualization*
- *Disaggregation*
- *FANS*



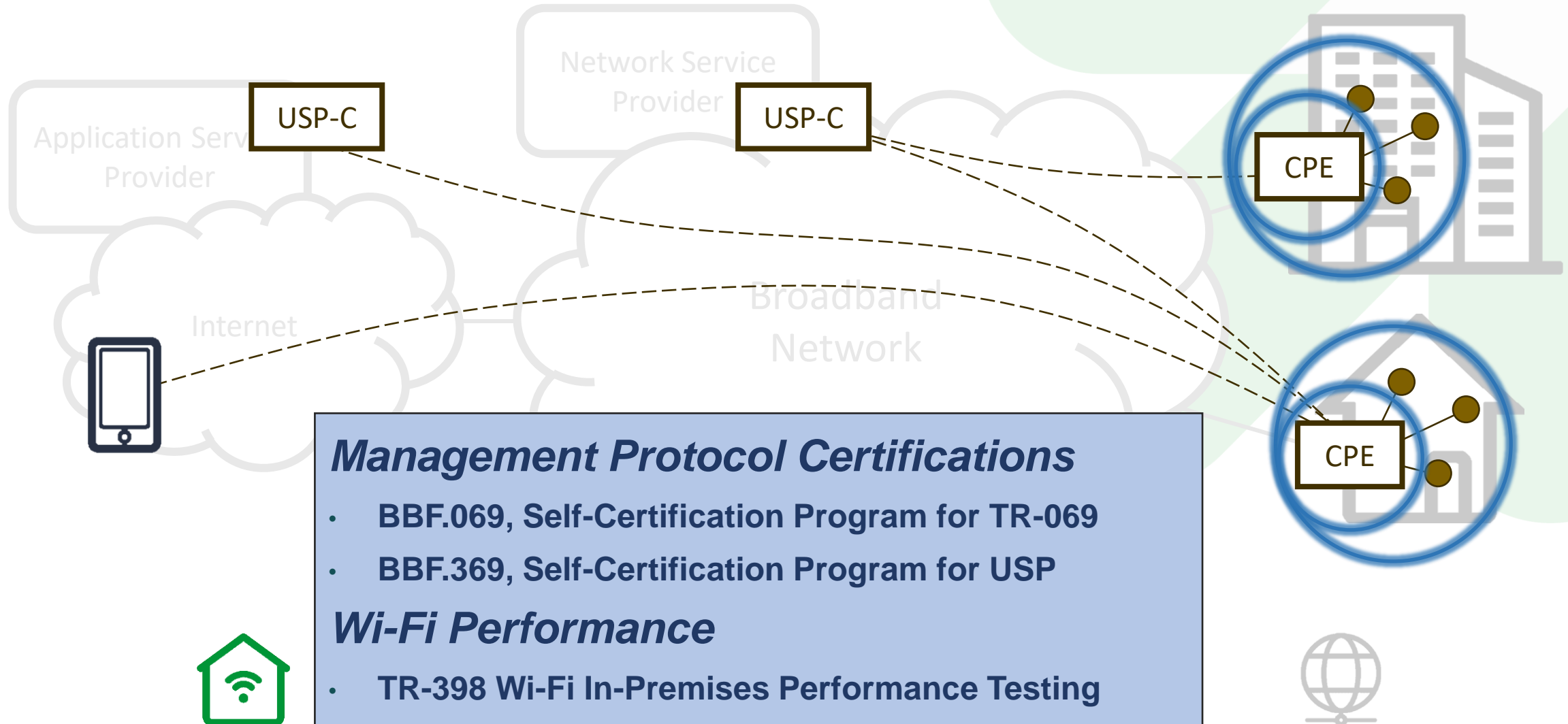
Access/Next

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

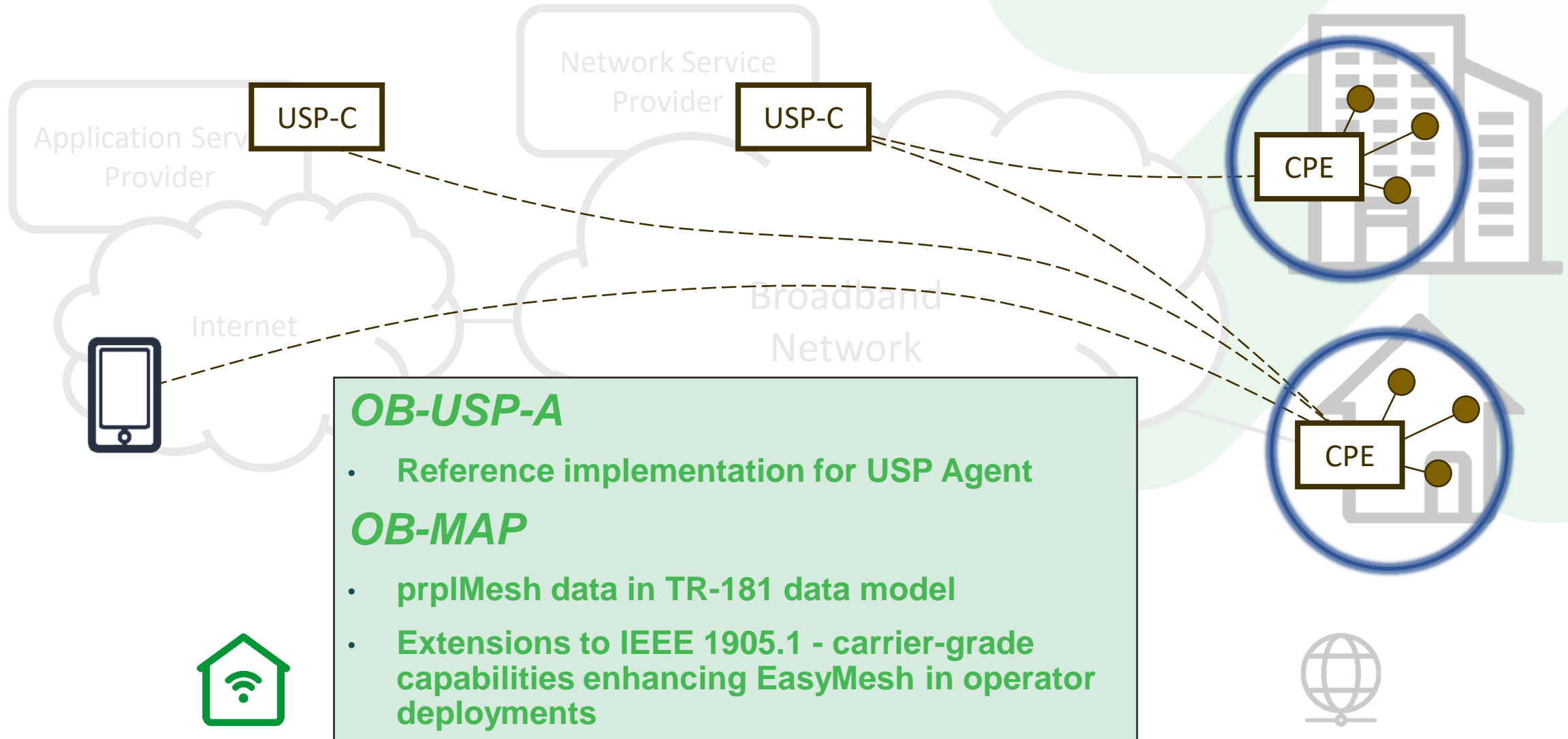
Connected Home Open Standards



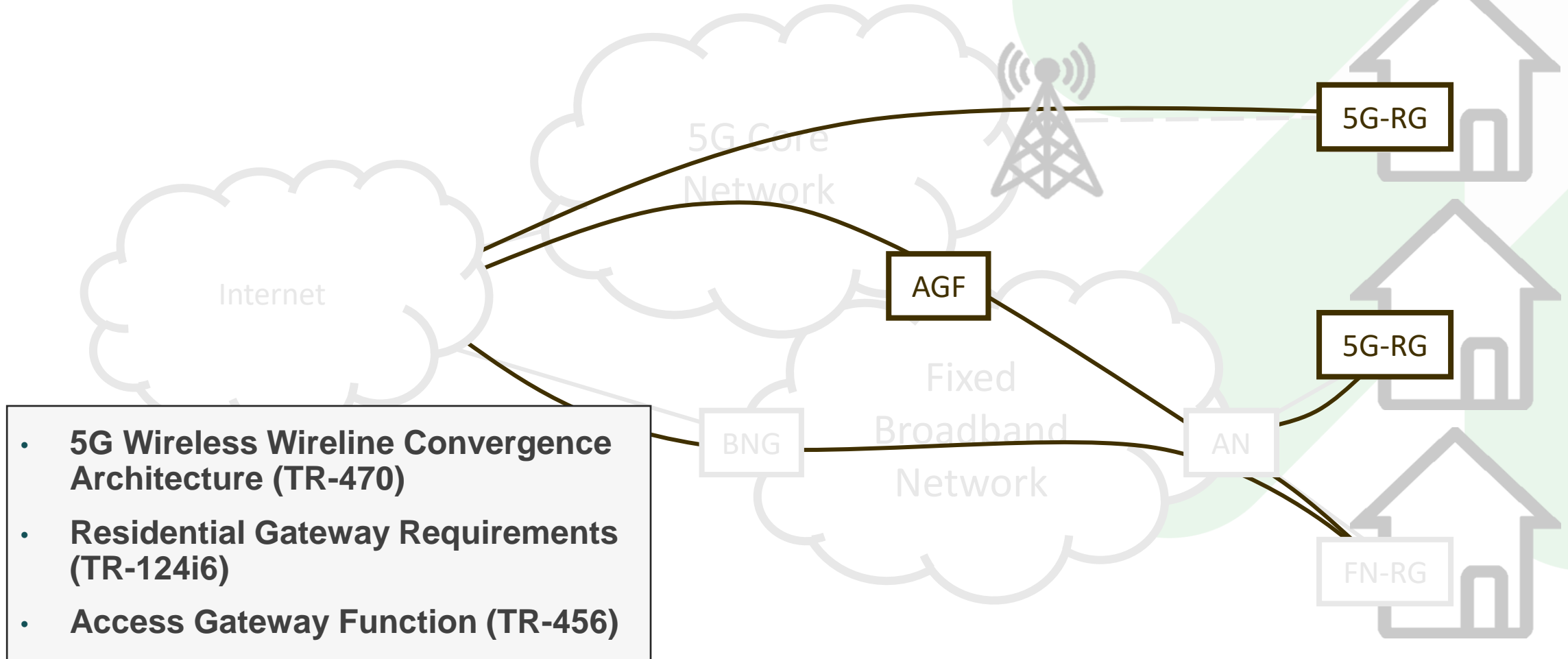
Connected Home Certification and Performance Testing



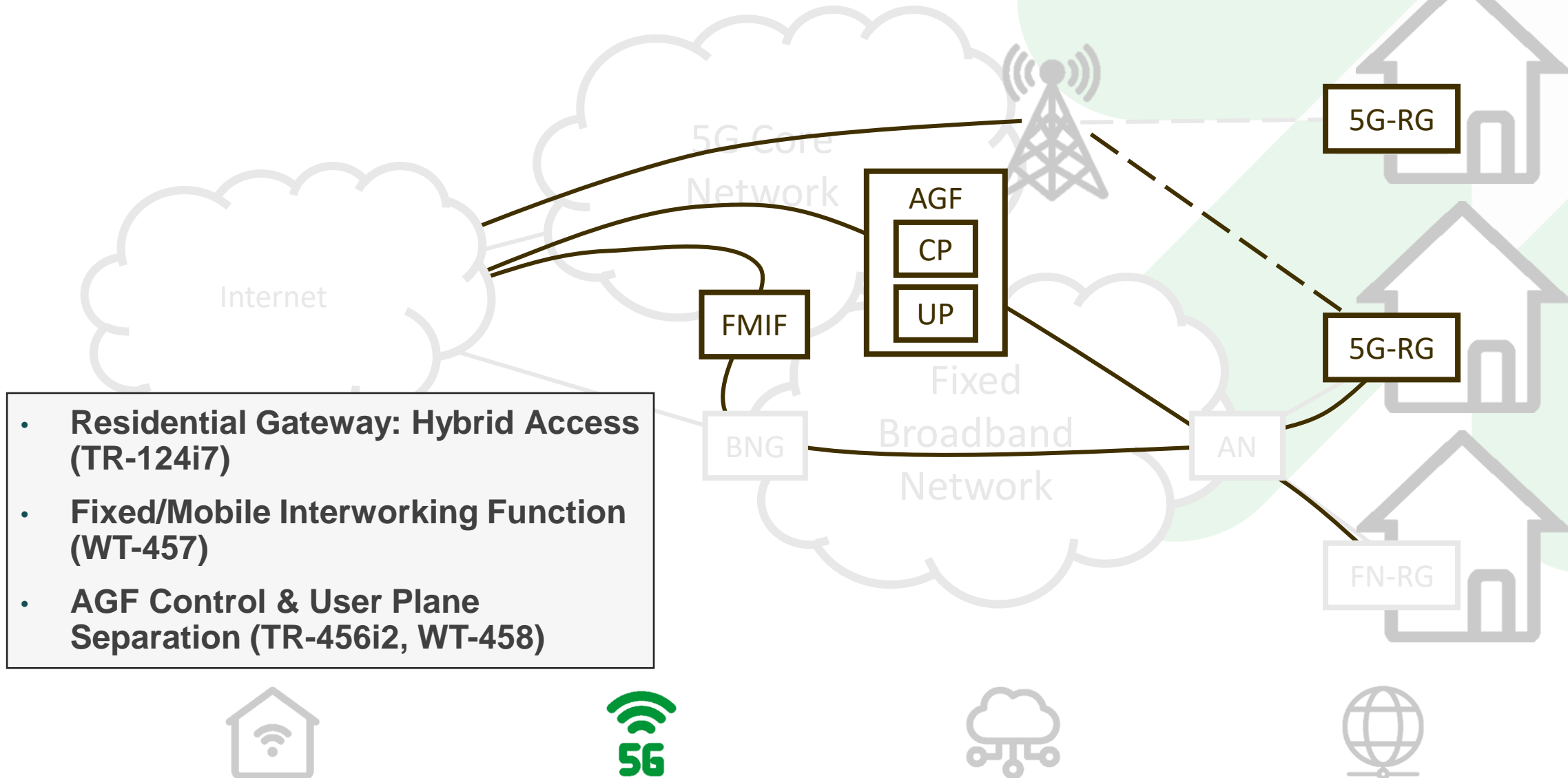
Connected Home Open Broadband Projects



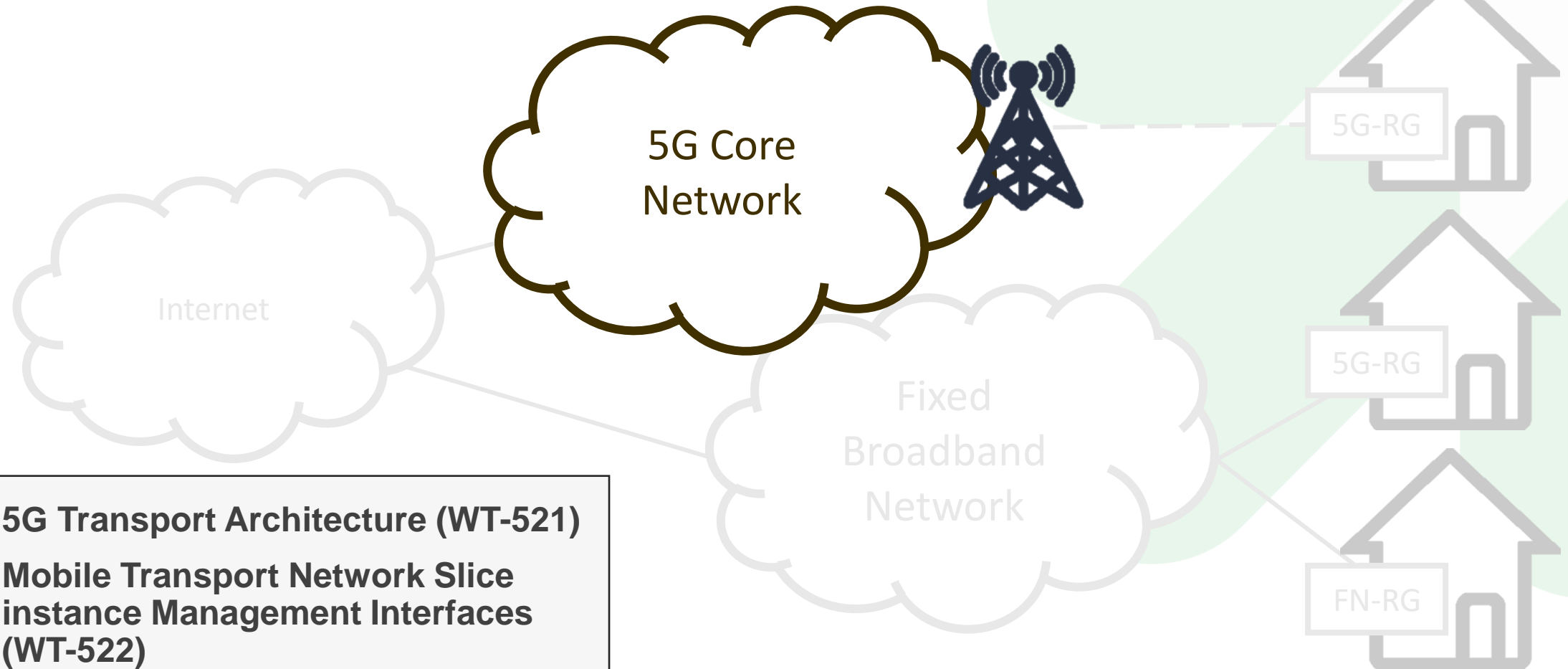
BBF/5G Open Standards: Phase 1



BBF/5G Open Standards: Phase 2



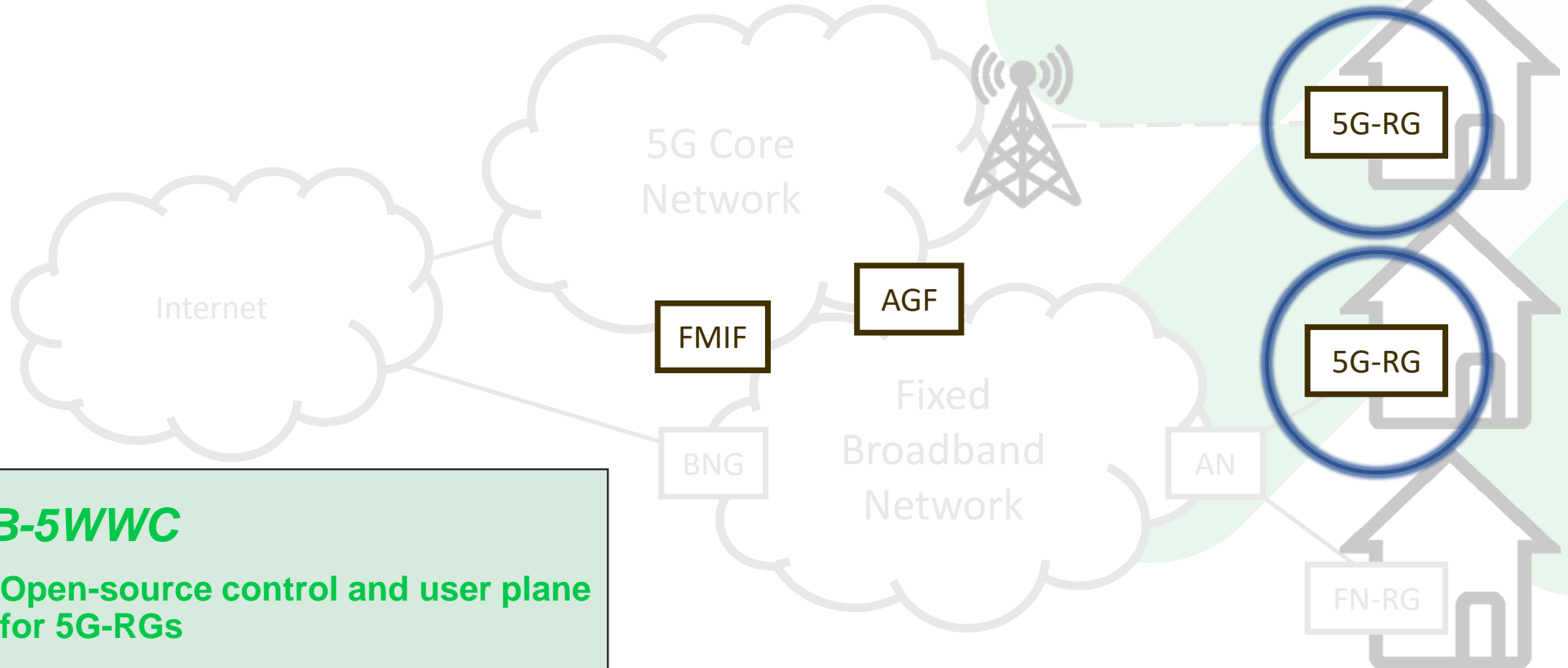
BBF/5G Open Standards: Transport & Slicing



- **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)

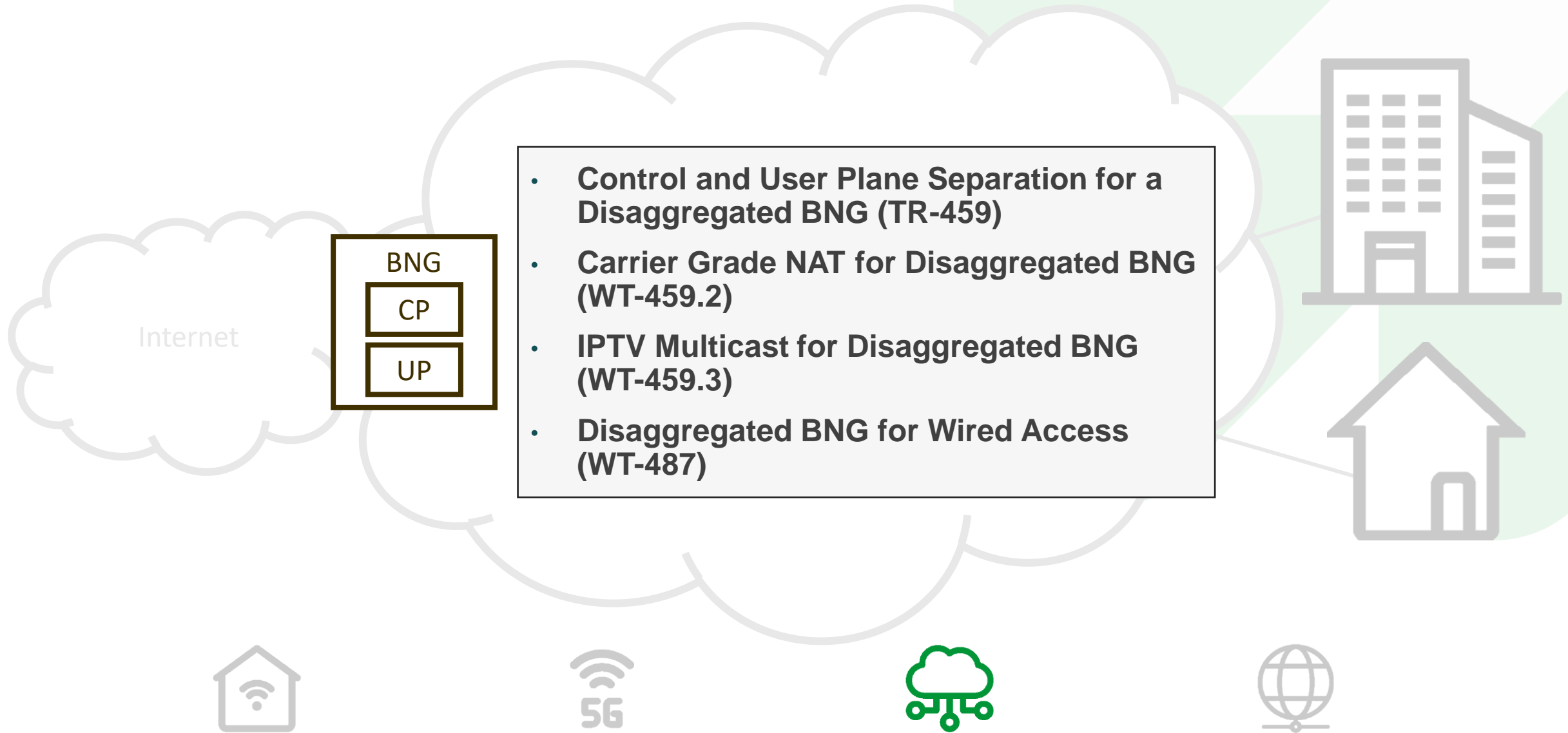
Automated Intelligent Management

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

Internet



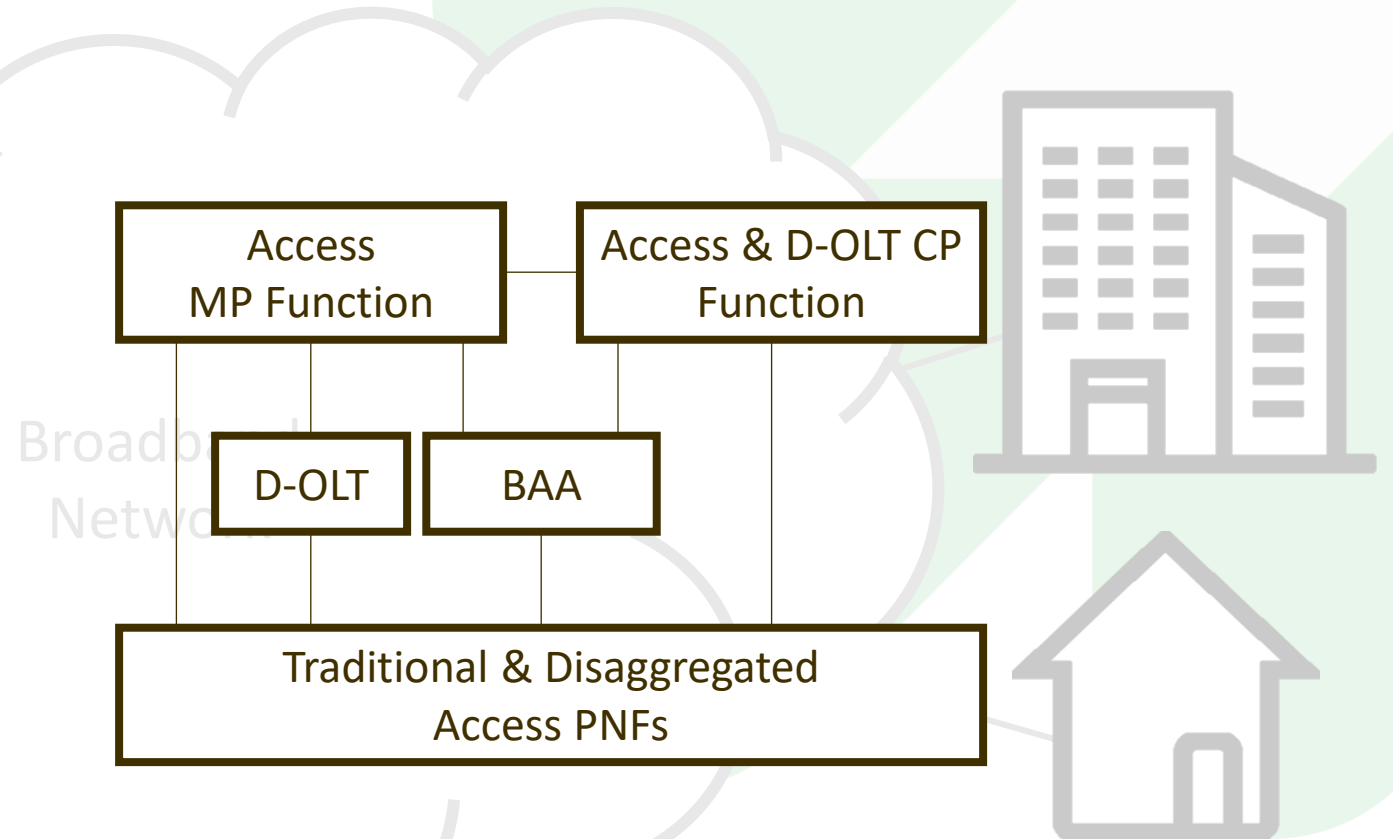
Cloud Open Standards: Broadband Network Gateway



- **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

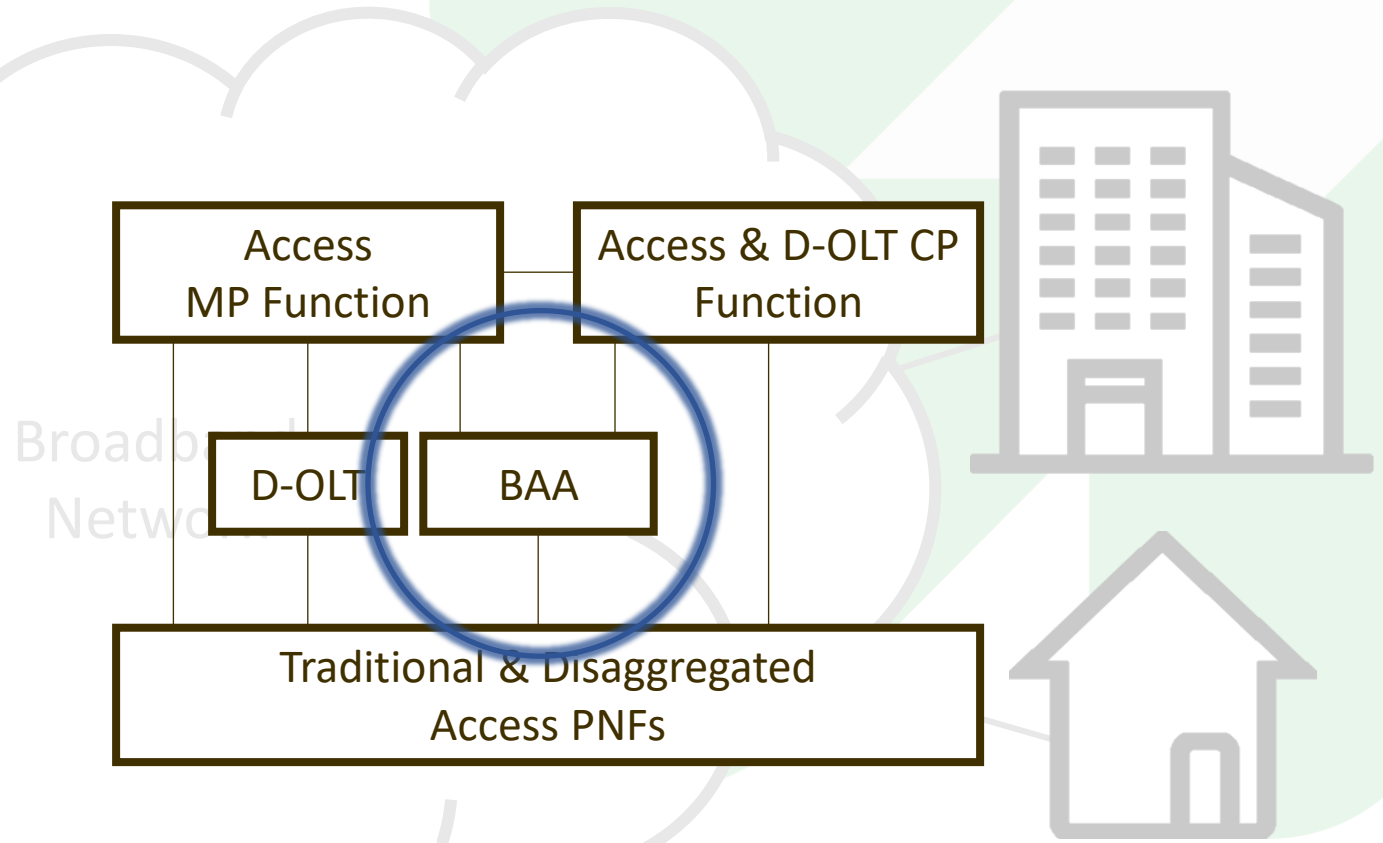
- **Broadband Access Abstraction (WT-484)**
- **Access Node Hardware Disaggregation (WT-477)**
- **vOMCI Interface (WT-451)**



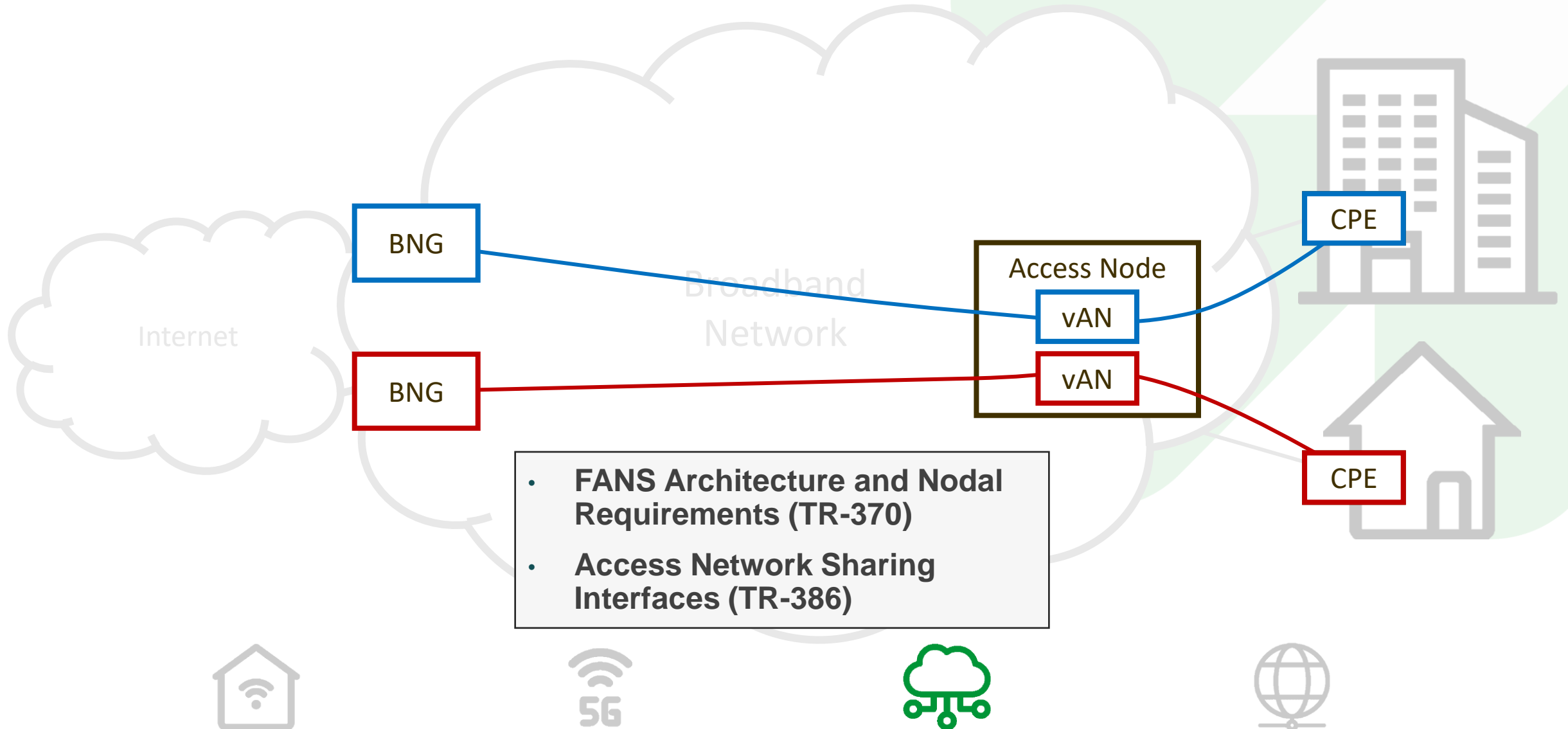
Cloud Open Broadband Projects

OB-BAA

- Reference implementation southbound abstraction layer for CloudCO



Cloud Open Standards: Fixed Access Network Sharing



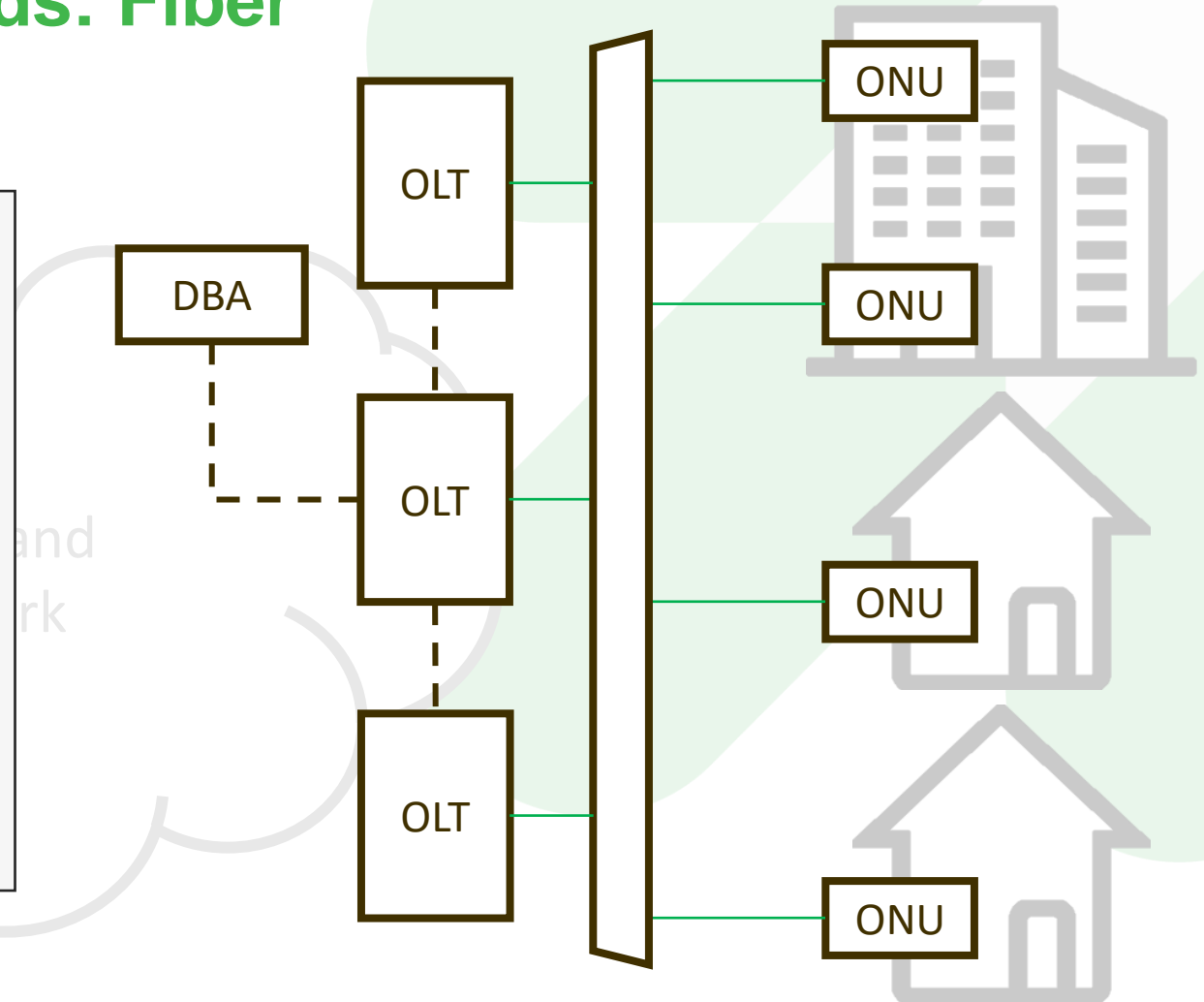
Access/Next Open Standards: Fiber

ITU-T PON Architecture

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

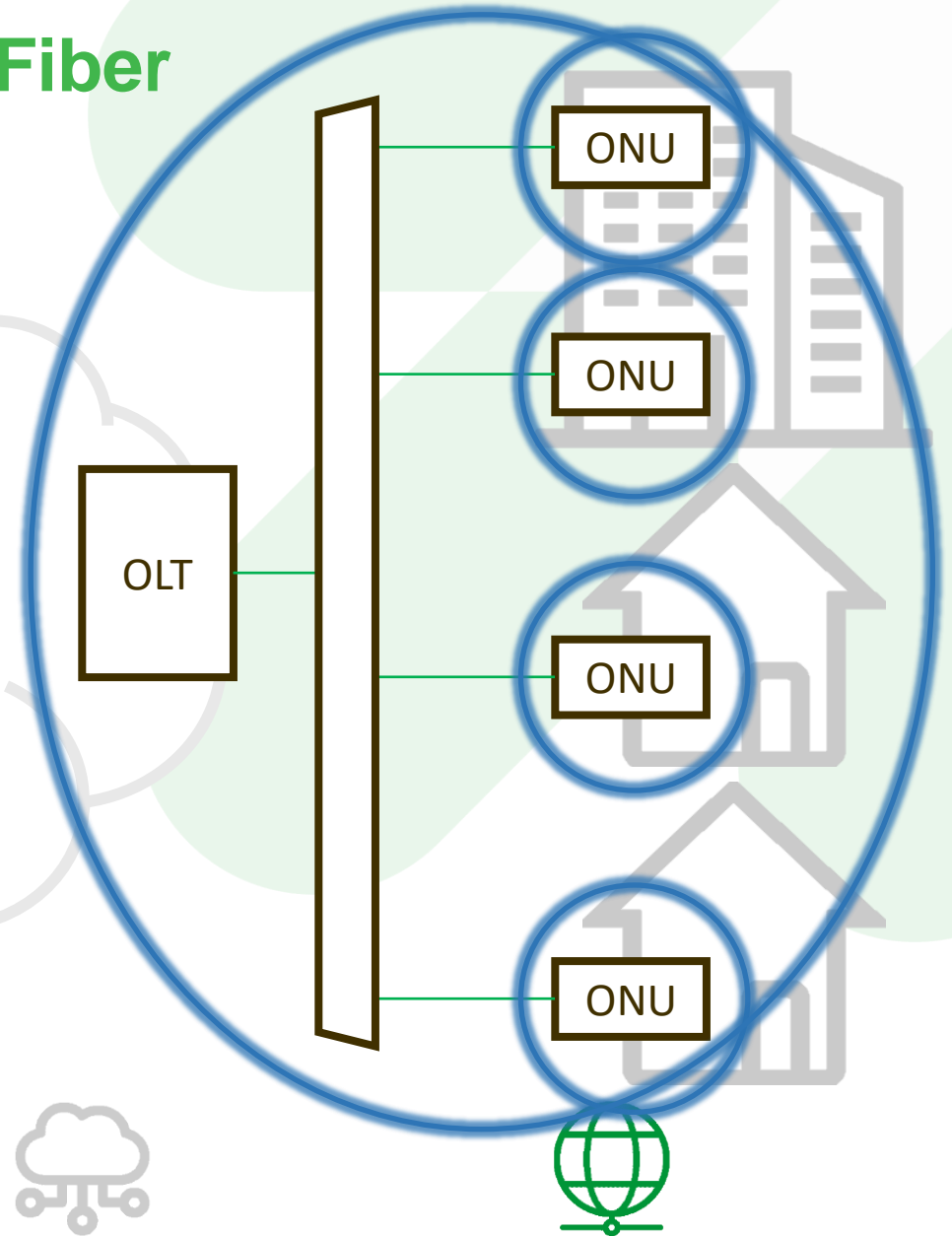
PON Management

- 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)

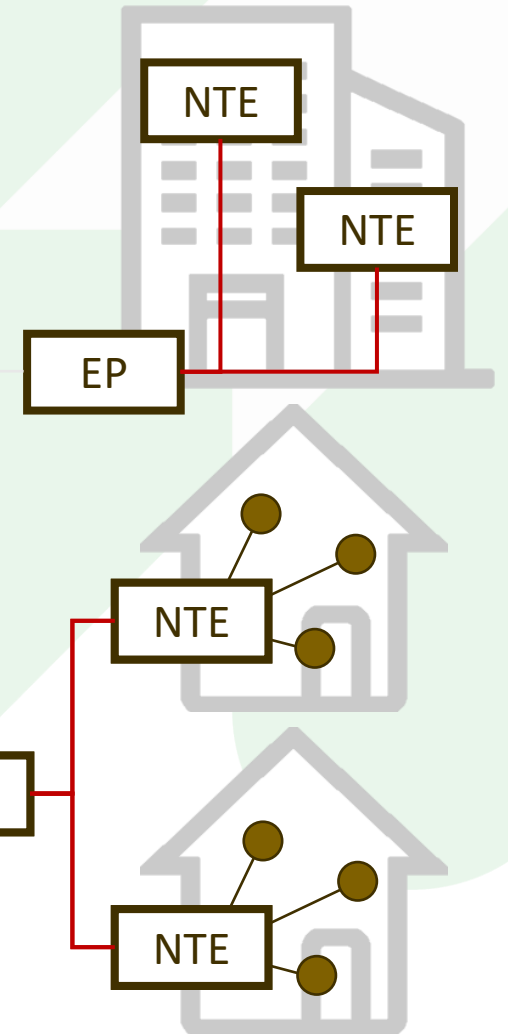


Access/Next Open Standards: Copper

- 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)

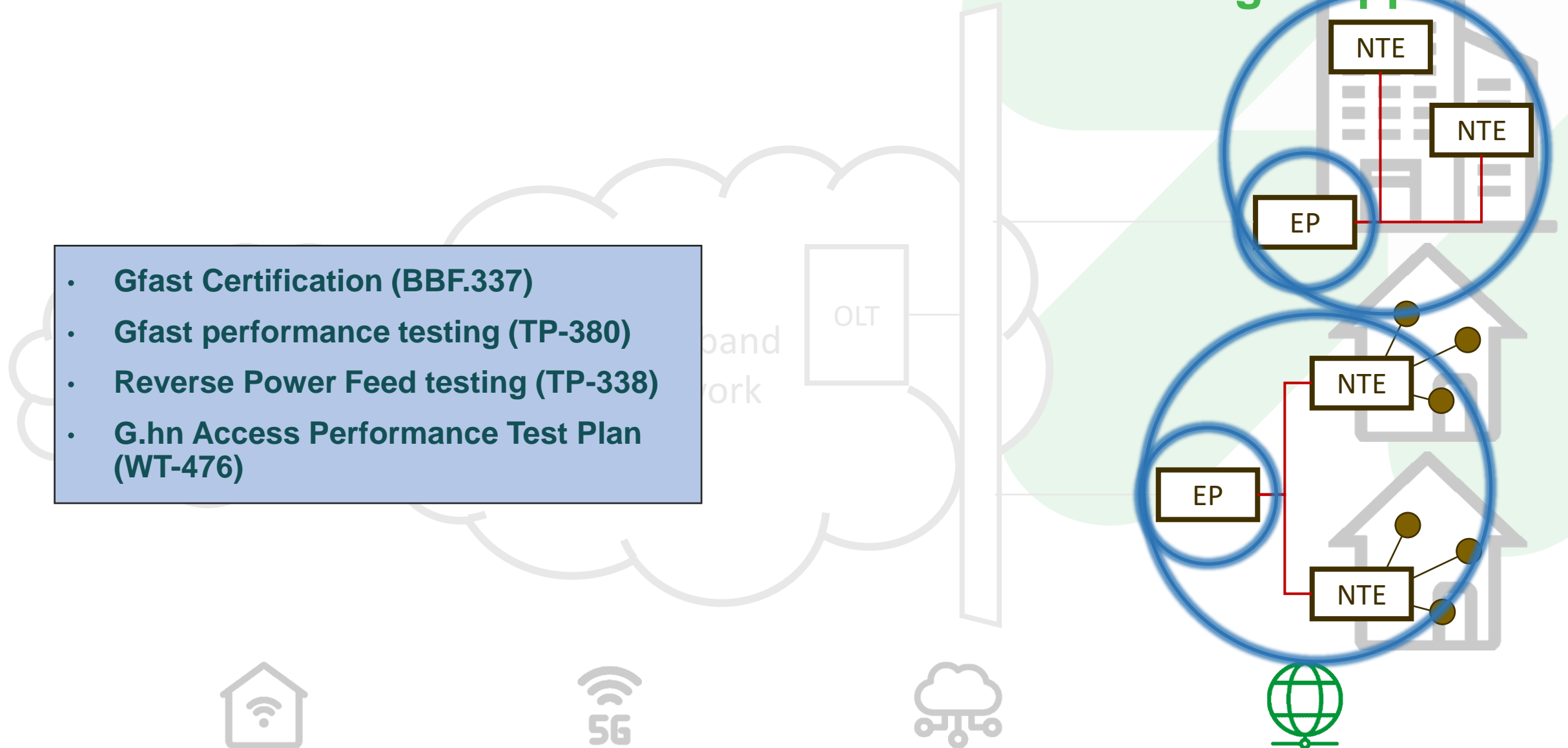
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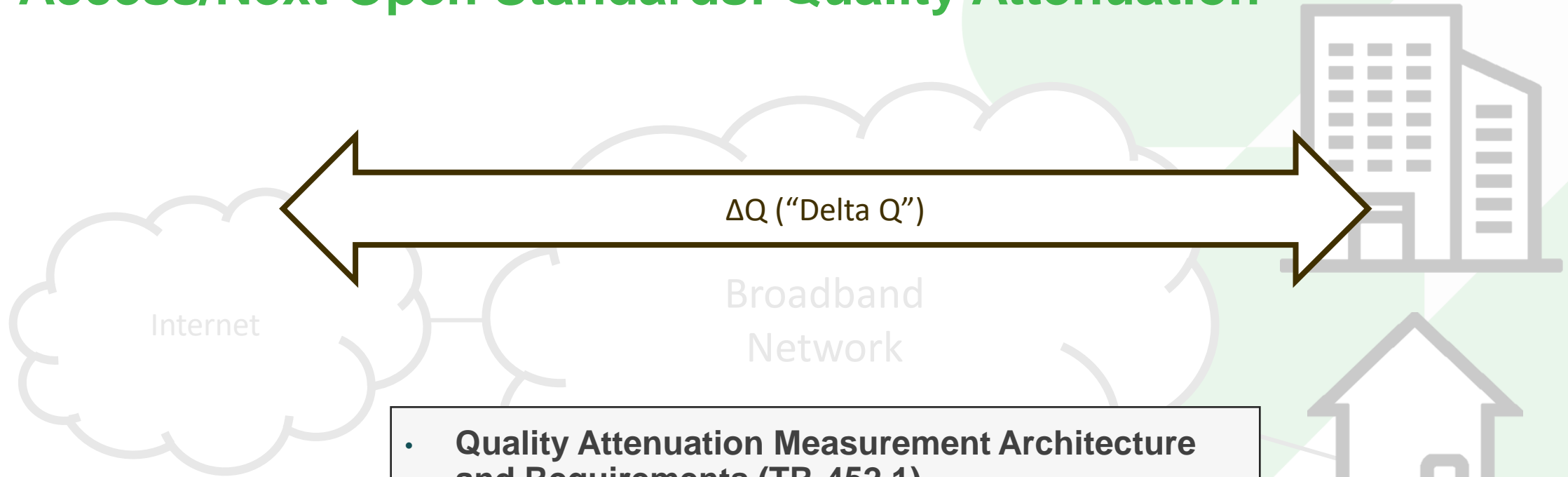


Access/Next Certification and Performance Testing: Copper

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



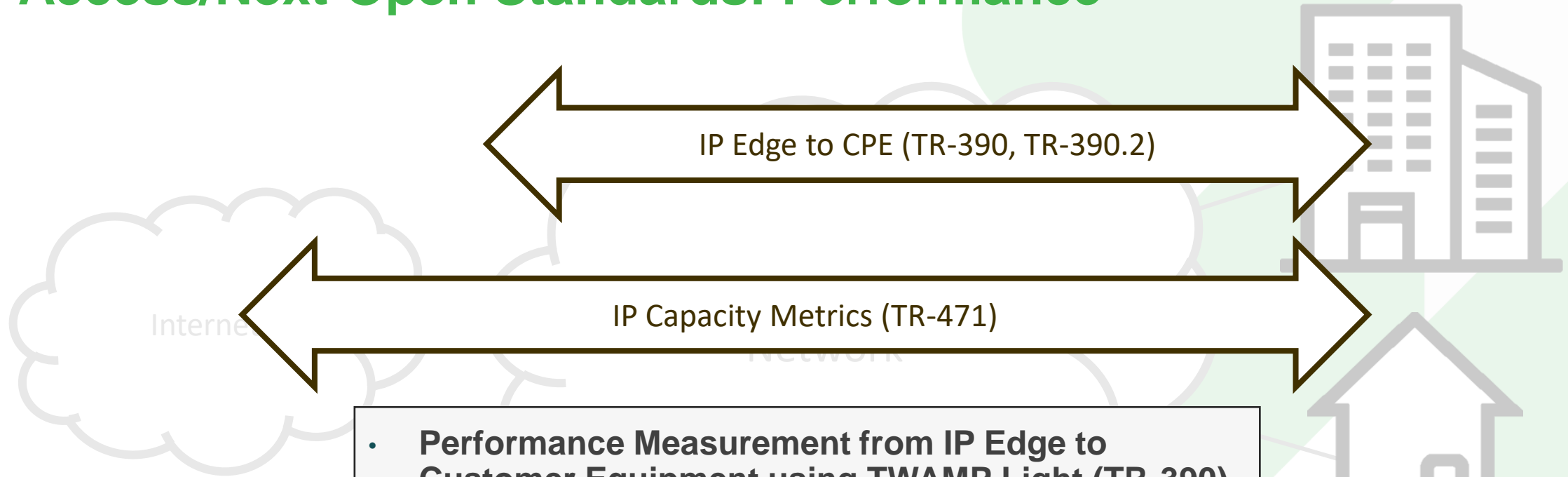
Access/Next Open Standards: Quality Attenuation



- **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)**



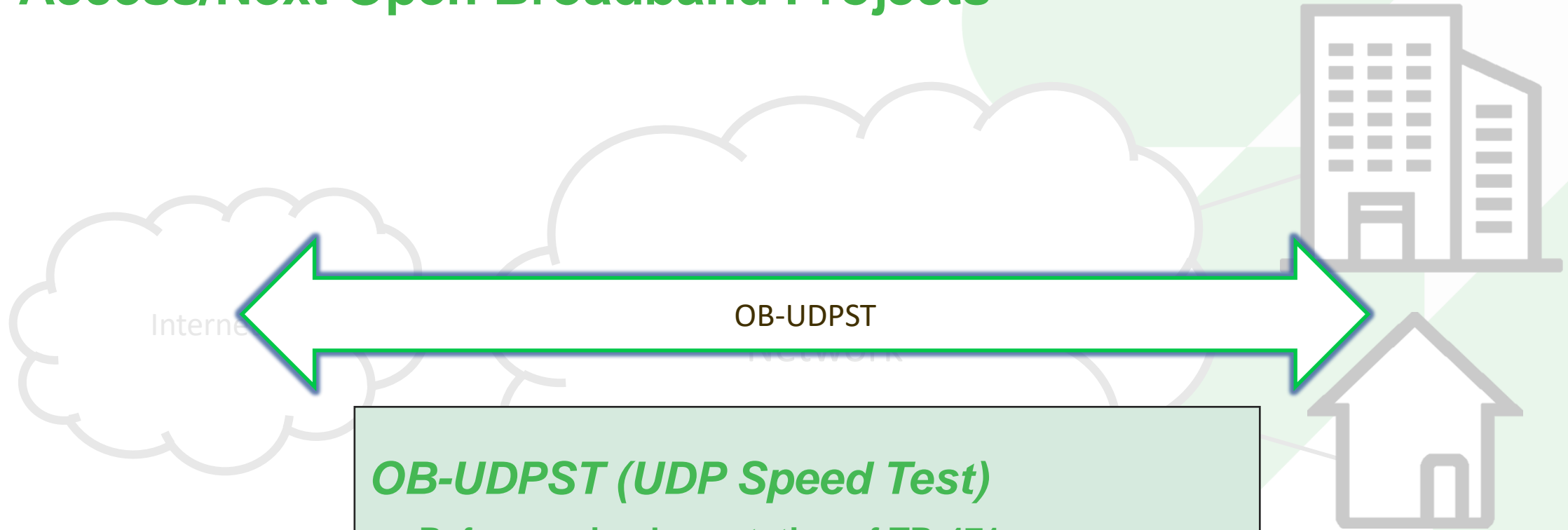
Access/Next Open Standards: Performance



- 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

