



# Broadband Forum: Open Broadband and ONAP

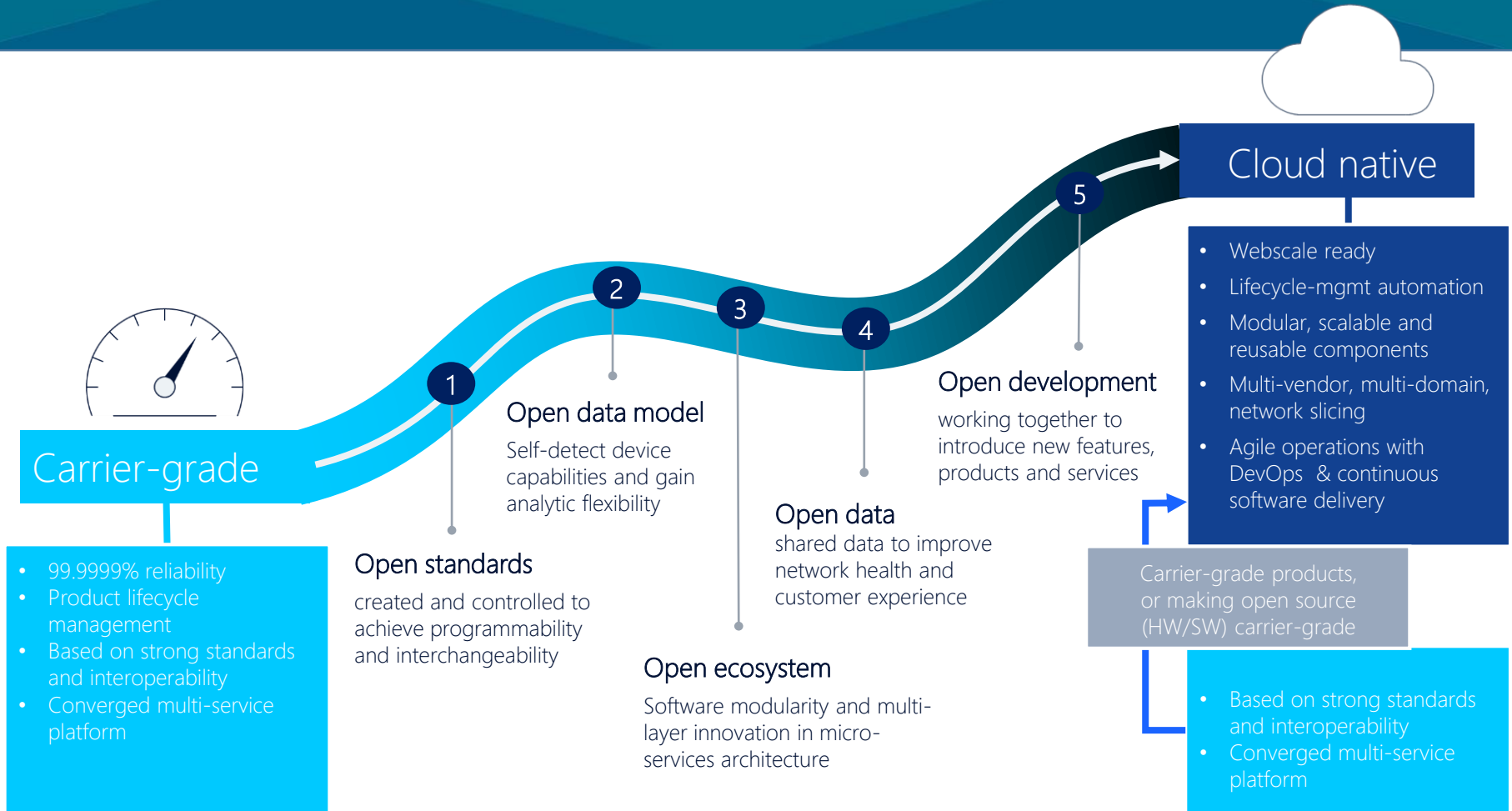
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# Abstract

- The Broadband Forum (BBF) is the industry leading standards organization that is central to the development of the Broadband ecosystem focusing on the enabling revenue-generating services in the connected home, access, 5G and Cloud for the benefit of service providers, equipment manufacturers and communities worldwide.
- As a standards organization, the BBF collaborates with a number of other industry standards organization and fora as well a number open source bodies using the BBF's Open Broadband program to accelerate the delivery of new broadband services.
- In ONAP the BBF is working closely with the BBS use case, that uses the BBF CloudCO framework, integrating CloudCO Application notes with BBS scenarios and then feeding APIs and information models back toward the BBF for consideration in the CloudCO specifications.

# Using standards to help create an interoperable ecosystem

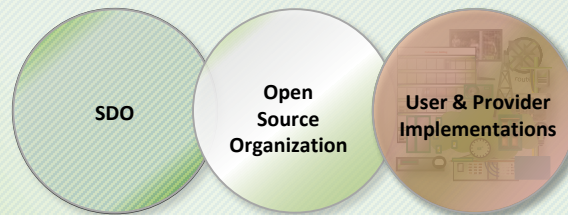
# The “Open” path toward Cloud native solutions



**Enabling the transformation to a digital service provider**



## Broadband Forum SDO-Open Source Industry Model



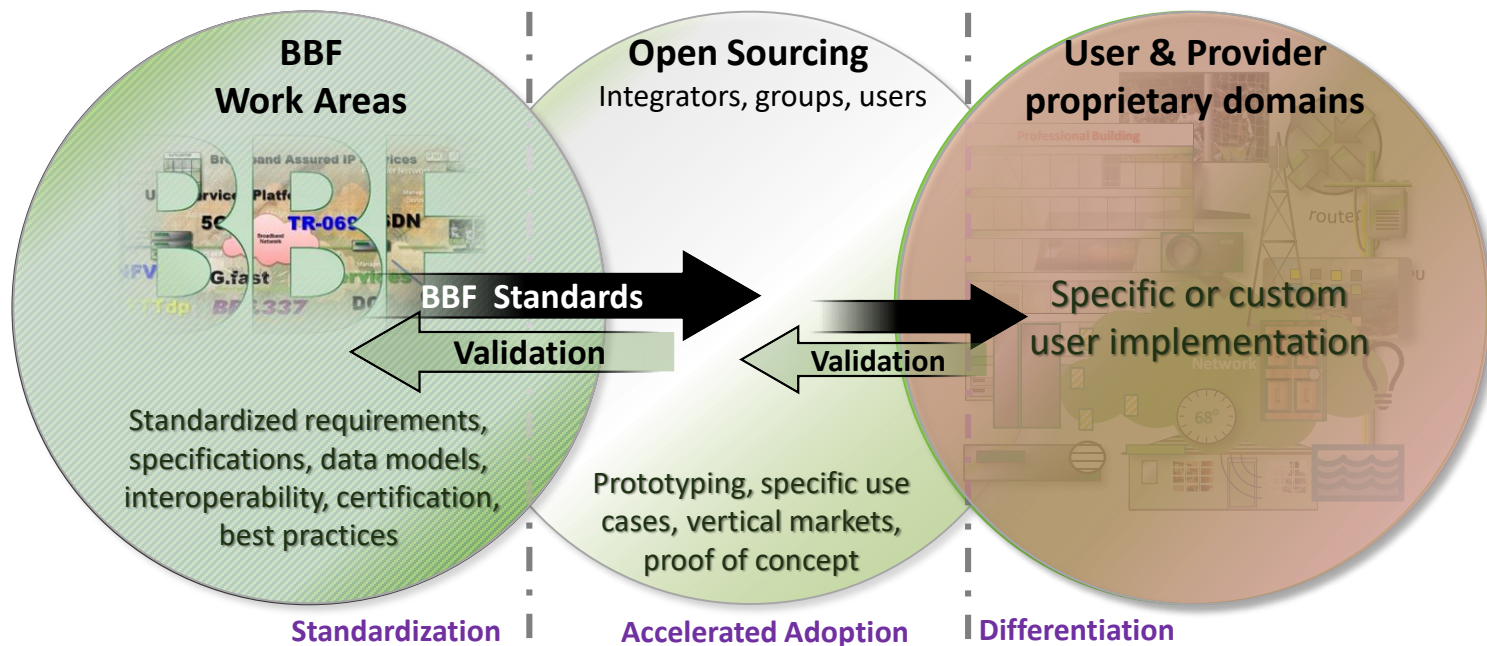
# Open Broadband Model

## A Collaborative Model covering various scenarios

- ① Accelerated development of formal (Broadband) Forum standards, etc.
- ② Use case which are out of scope for a standard (e.g. something for a vertical market or which leverages some other open source work, or a vendor agnostic app-store/catalog)
- ③ Open source work on a specific use case to validate new or amended BBF spec
- ④ Open source projects as incubator for future standards (upstreaming from elsewhere) – identify common idea/need/data model that warrants standardization
- ⑤ Open source projects are monitored for possible standardization

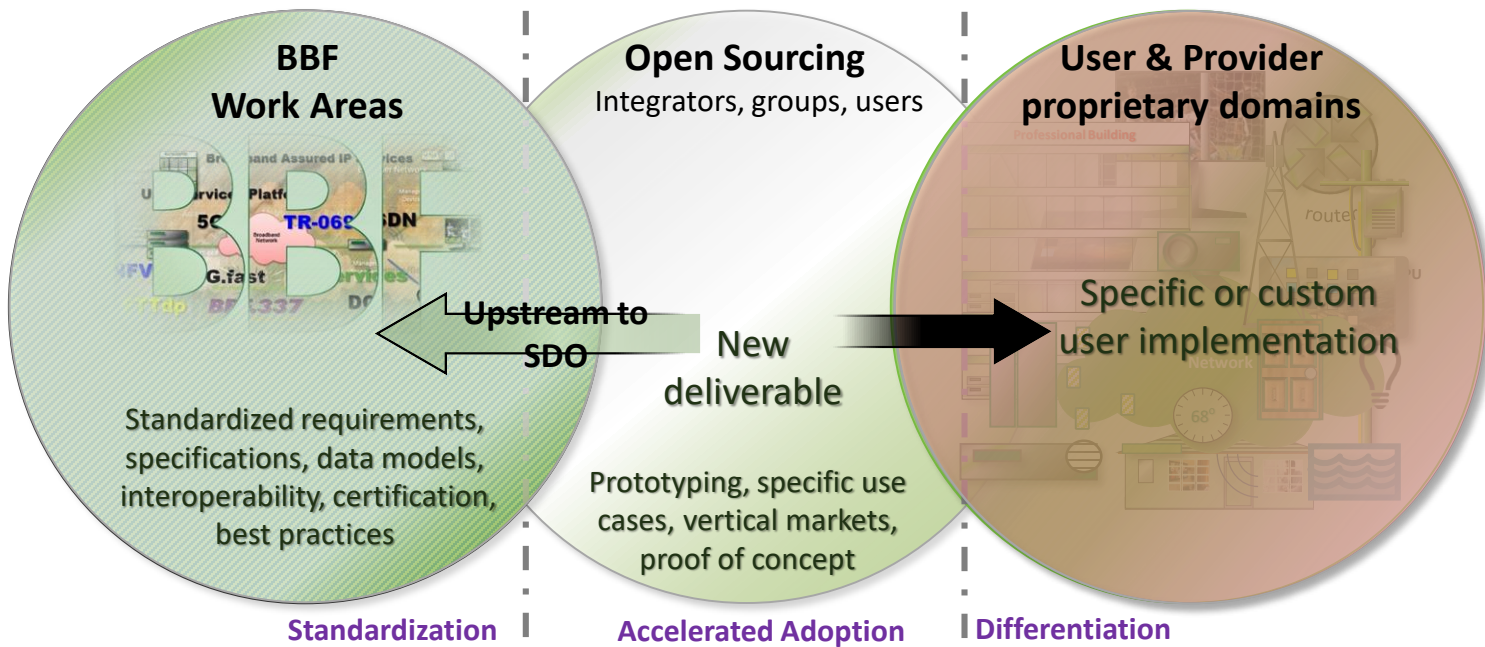
# Broadband Forum Open Source Model: 3 of 5

- Open-Source work on a specific use case to validate new or amended BBF spec
- Combines rapid market adoption with standardized testing and certification



# Broadband Forum Open Source Model: 4 of 5

- Open-Source work as initiator of new standards work based on practical implementation (“Upstreaming”)
- Enables forums role in testing of interoperability of solutions and possible certified interoperable compliant





# Broadband Forum: Open Source Projects

**BBF Open Broadband initiative also has capability to host open source projects including:**

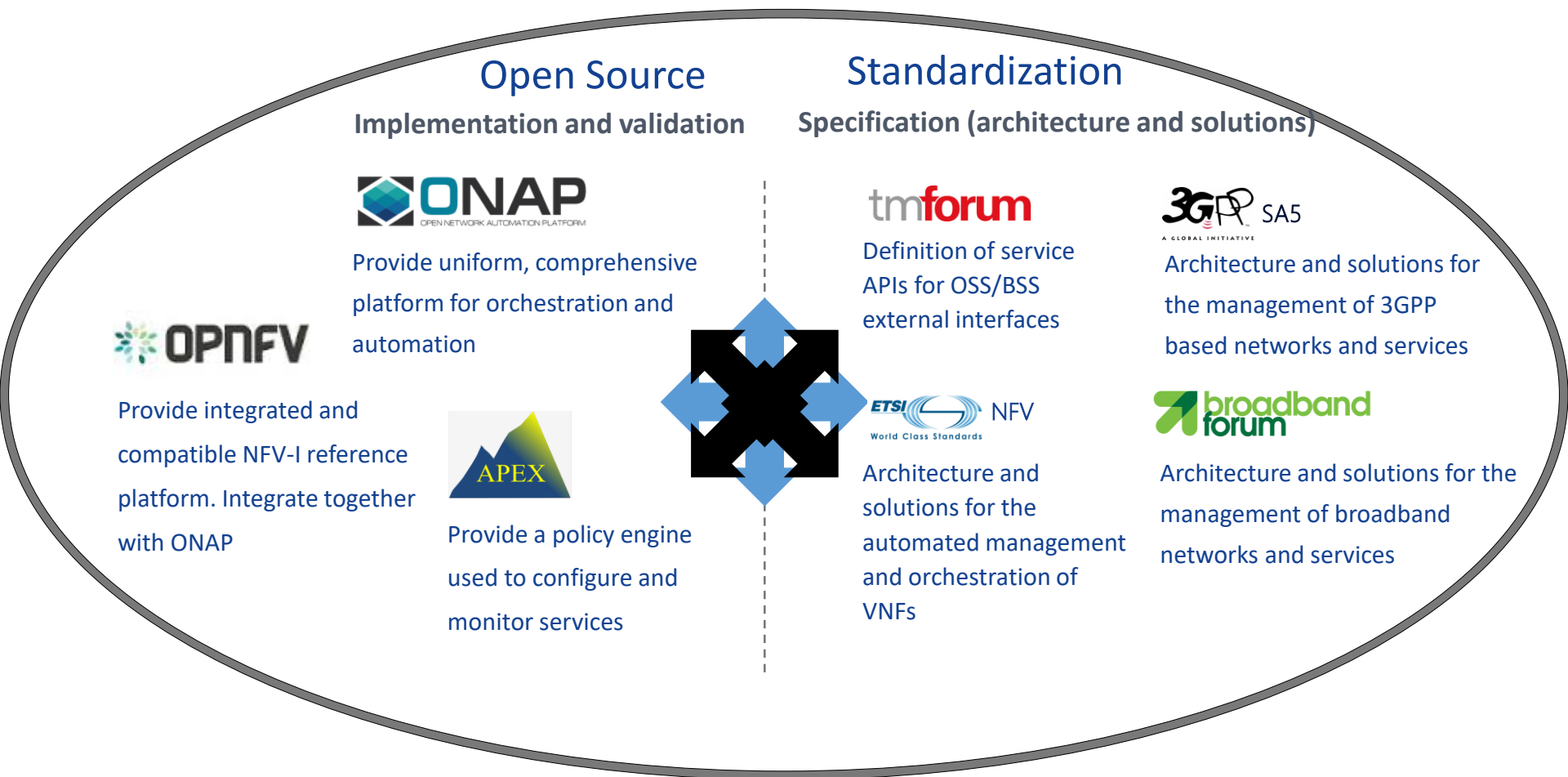
- Environments to collaborate, document, develop and maintain open source projects
- Has a flexible IPR policy for design and code artifacts tailored to meet your IPR and royalty needs of the project.
- Governance by the Broadband Forum

## **Open Broadband Projects:**

- **OB-MAP:** Multi Access Point (Multi-AP) - is an open source implementation of the WiFi Alliance Easy Mesh specification, building on the BBF's original 1905.1 open source work. This is being done in collaboration with the Prpl Foundation.
- **OB-USP-Agent:** Open source implementation of a BBF TR-369 USP agent.
- **OB-BAA:** Open source project that specifies the Northbound Interfaces (NBI), Core Components and Southbound Adapter Interfaces (SAI) for functions associated with the access network devices (e.g., configuration, reporting, alarms) that have been virtualized.

# BBF and BBS Use Case Collaboration

# Using Open Source and Standardization in BBS



Open source standardizes implementations, standards define interfaces and ensure compatibility between implementations

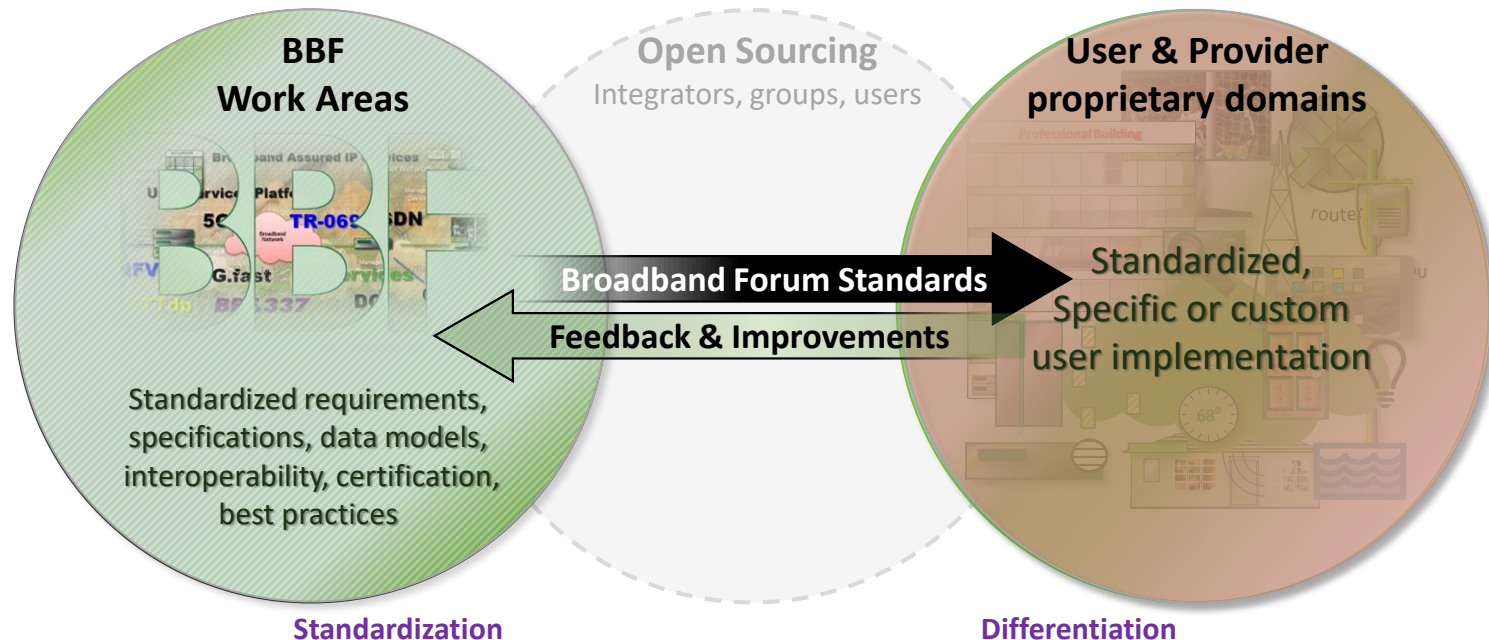
# BBS: BBF Standardization Objectives

- Uses the BBF's Open Broadband Model 3 and 4
- Use the Broadband Forum's TR-384 CloudCO Framework based on Application Note: [CloudCO-APPN-446 : ONAP Integration for Residential Broadband HSIA Service](#)
- Use the design pattern of the Application Note as basis (i.e., use of Domain Specific Management and Control elements)
  - Vary the use case based on an operator's actual deployment scenarios that highlight advantages of an automation platform like ONAP (Zero touch service activation, ONT Relocation)
  - Feedback the APIs for the relevant interfaces for standardization

# Backup

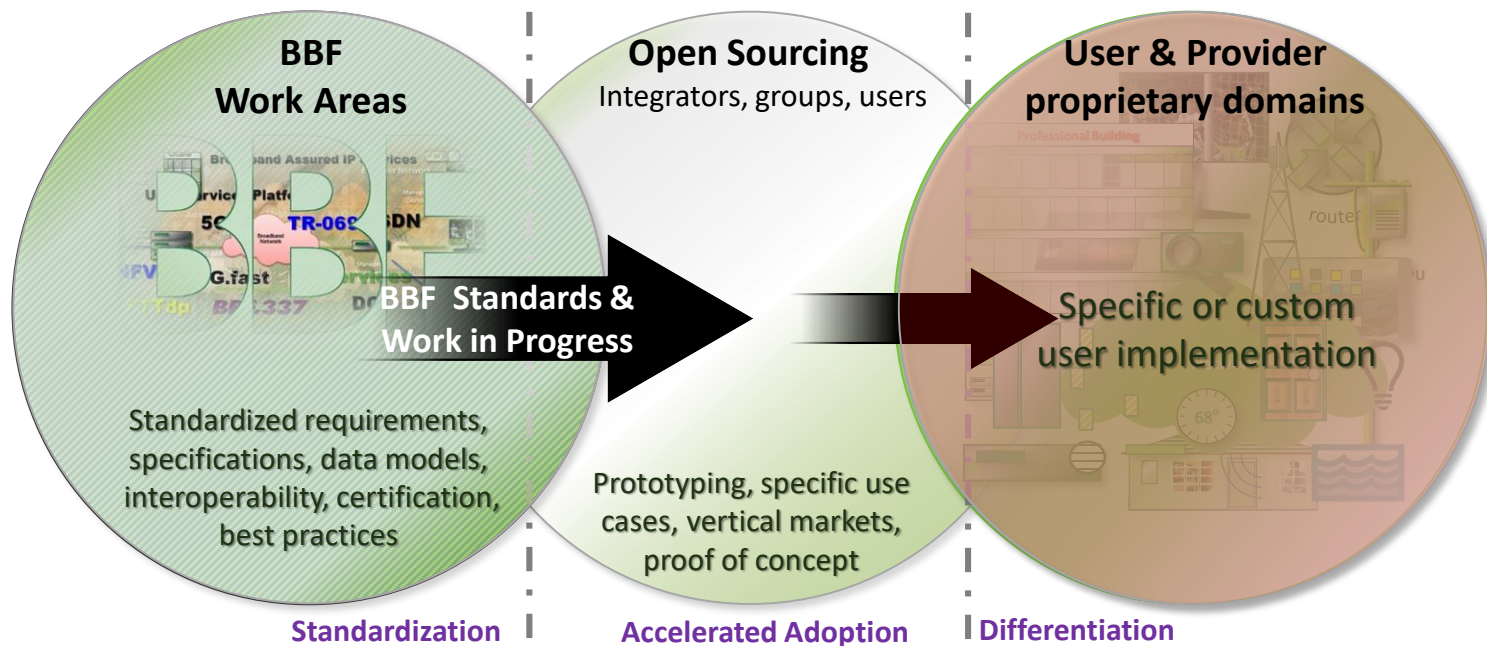
# Broadband Forum Open Source Model: 1 of 5

- Development of BBF standards, best practices, implementation guidelines (traditional) ... but with accelerated process good for short term simple, new technologies, or kicking off new global market appeal
- Creates network model that people can design products against that works for and is understandable by all stakeholders
- Create innovative reference implementations
- Good for incremental improvements that exhibit functional innovation



# Broadband Forum Open Source Model: 2 of 5

- Use case which are out of scope for the forum e.g. services/apps for a vertical market or leverages other open source work, or a vendor agnostic app-store
- Helps integrators, vendors with rapid deployment
- SDO role assists marketing efforts



# Broadband Forum Open Source Model: 5 of 5

- SDO monitors open source projects for common ideas/needs/data model that warrants standardization for the benefit of open source stakeholders
- Promotes proper testing
- Enhances Standard based on market acceptance

