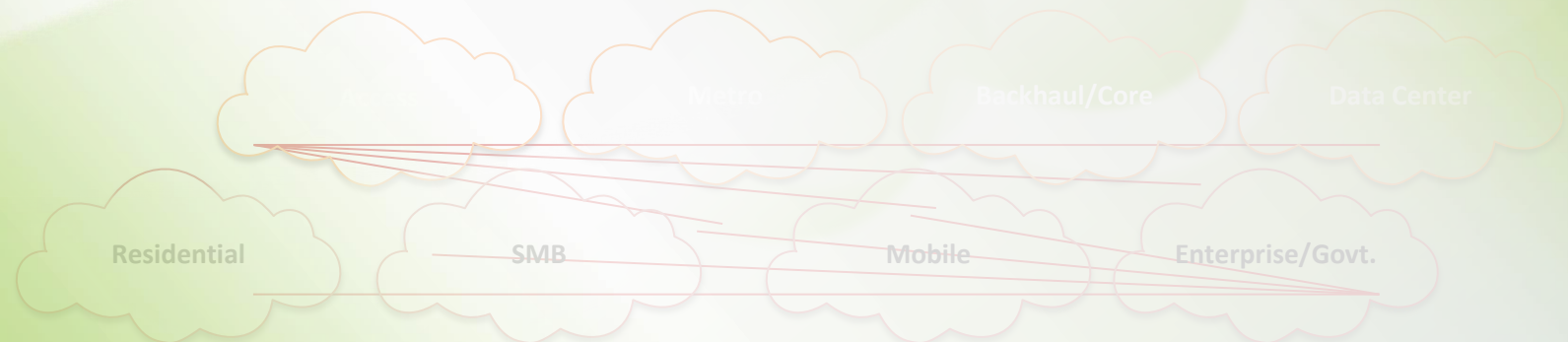# BBF 2016 Update

Second Multi-SDO Information Modeling Workshop

Bonn – 8th December 2016 – Broadband Forum

Topics

Overview

- Progress
- New Projects
- Common Information Model

Progress: IPR Policy and Draft Releases

- IPR policy
  - Updated [IPR policy](#) to accommodate software, Open Source use (propagation), and Anti-trust issues (allows commercial code)
  - Came into force in July 2016
  - Specifies use of BSD 3-clause license for all BBF software deliverables
  - Allows software contributors to retain copyright or to assign copyright to BBF on publication
  - Patent rights are RAND-licensed, the same as for specifications
- Draft releases
  - In the past have used liaisons to share drafts outside BBF
  - This is problematic for liaison partners, such as IETF, that post all liaisons publicly
  - Therefore are defining a temporary licence to be used on draft software releases
  - Temporary licence permits use for internal study purposes only
  - Draft releases will simply be placed in public GitHub repositories
  - Will make it a lot easier to share software, e.g. YANG, with other organisations

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Progress: YANG Modeling

- This has continued apace!
- Published TR-355 in early August
  - First phase of YANG modules for FTTdp DPU management
- Created Common YANG project
  - **Develops common YANG applicable across multiple BBF projects**
  - Owns BBF YANG best practices, which build on IETF and other SDO YANG best practices, and specify use of IETF etc. "core" modules
- Close liaison with other SDOs
  - Avoid duplication
  - Mutual awareness of roadmaps
  - Direct involvement in SDO efforts where IPR policy permits
- Now have eight YANG-related projects

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- Published TR-355 in early August

BBF YANG modules are publicly available at https://github.com/BroadbandForum/yang

- Created Common YANG project

  – **Develops common YANG applicable across multiple BBF projects**

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| Current BBF YANG-related projects are:	Core YANG modules from other SDOs include:
• Common YANG	• IETF interfaces
• YANG for FTTdp DPU management	• IETF hardware
• YANG for FTTdp PMAA northbound interface	• IETF alarms
• YANG for G.hn management	• IEEE ethernet
• YANG for PON OLT management	
• YANG for PON ONU management	
• YANG for SDN access nodes	
• CWMP to YANG translation rules and tools	

Progress: Atlassian Tools

- Confluence, JIRA, Bitbucket, …
    - Have replaced informal use of GitHub and Google Docs
    - Huge advantage is that can self-host, use member email addresses as usernames, and integrate into processes
    - This was never going to be possible with github.com and docs.google.com
- Currently mapping software contributions to appropriate tool operations
    - For example code contribution is pull request to BBF project repository
- Brings BBF (an SDO) closer (in terms of ways of working) to OSS organizations

New Project: Cloud Central Office (aka Cloud CO)

- Five sub-projects
  - 1: Definition of a reference architectural framework of the Cloud CO [...] framework starts from basic northbound API expectations [...] byproduct of end-to-end service composition
  - 2: Definition of interfaces (potentially including definition of APIs, YANG or other schemas, and protocols) between the functional modules
  - 3: A software reference implementation of the framework
  - 4: A project on the Cloud CO coexistence with, and subscriber migration from, legacy Broadband architectures
  - 5: A project on a hardware reference implementation of Cloud CO based on deployment considerations
- Sub-project 1 resonates with the final bullet of the Louisville *NFV(16)000033 IM Workshop agreed message* background narrative **[quoted below]**
  - *Prior to developing open APIs and open source software it is recommended to first have a functional architecture with a set of clear and concise interfaces*
  - *The interfaces will allow for the definition of open APIs and corresponding open source development efforts*
  - *It will also allow for the determination of the OSS implementation architecture*
  - *Having a solid simple architecture, with the demand of the user base, will drive the industry to comply and adapt"*
- Sub-projects 1 and 2 are directly relevant to information modelling
  - 1: Top-down analysis will identify interfaces that relate to user concerns
  - 2: Depending on range of desired products, may call for information modelling

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New Project: A Platform for Trading Virtualized Services

- NFVI supports multiplicity of use cases and domains
- Common virtualized hosts on nodes are the common platform that "ALL" use cases must leverage
- In the compute space – they provide a platform and get out of the way of application providers
- BBF is aiming for the same thing – allowing coders to do what they do best and have a large addressable market

- Service Providers at the BBF have set up a Steering Group to drive a common top-down vision of a framework that enables trading virtualized services regardless of location or 'technology' choices

- **The BBF Board has welcomed this initiative. Non-member Service Providers are invited to join this Steering Group for free – If you are interested please contact: Mike Bugenhagen at Michael.K.Bugenhagen@centurylink.com**

Source: ETSI NFV ISG whitepaper #3
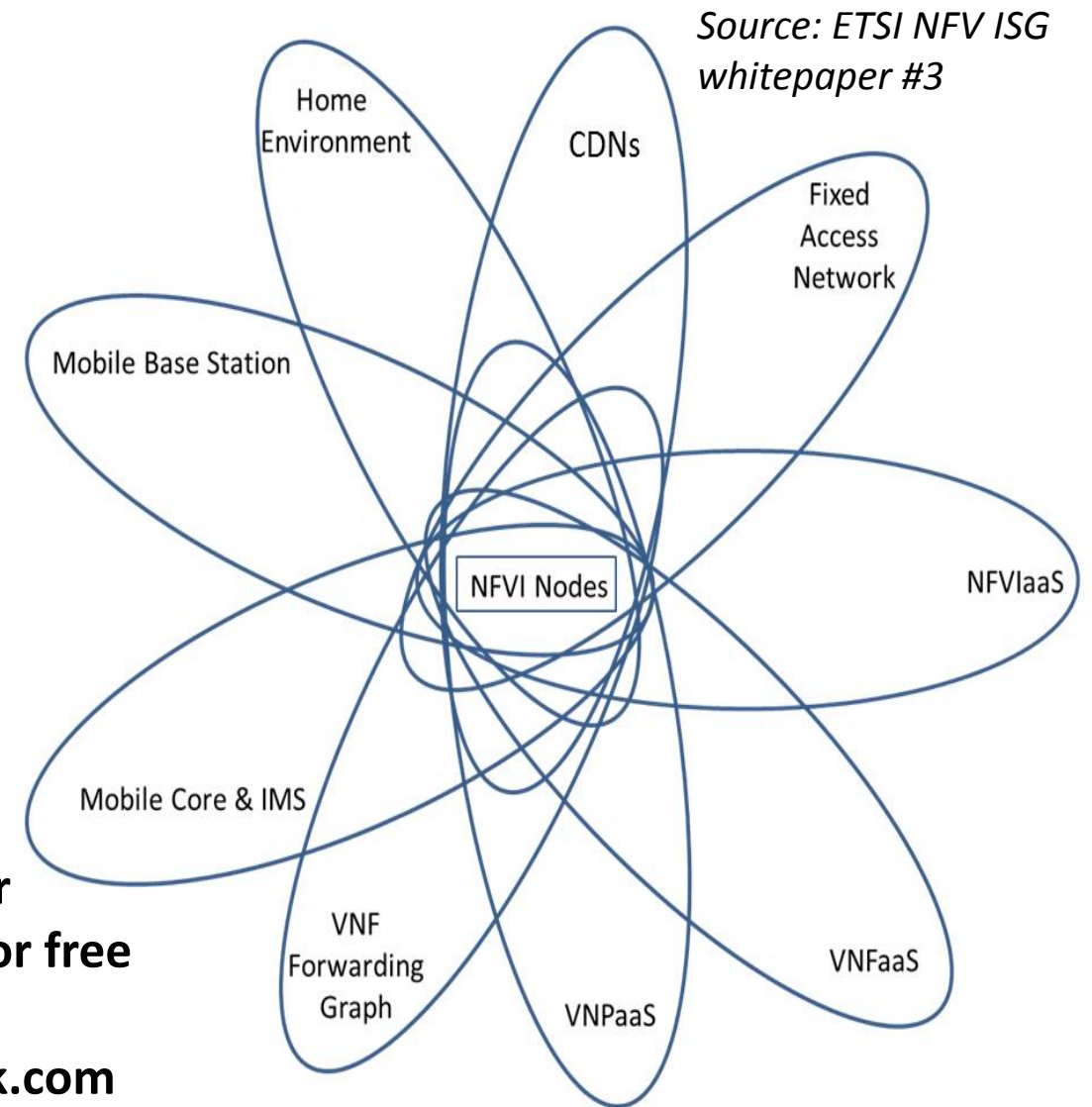
New Project: Top Down and End to End (One Platform Top Down View)

Residential | Enterprise | Wireless | IoT | Content | Apps

This project targets creating a common topology model for use in Orchestration templates (such as TOSCA / HEAT) by identifying the common "provider" platform view of where a customer can deploy VNFs.

Once the topology model is established for all the service / overlay verticals, all the use cases become deployment templates.

Use cases on a common platform that has a standard "topology"

One outcome of this work could be CIM to communicate requirements to platform groups

Creation of a standard industry platform view of resources

DATACENTER

Broadband Assured Service

Physical Connectivity

PoP / CO / Data Center

Broadband Assured Service

Customer Premises

Best Efforts Internet

ACS

Internet

Wired or Wi-Fi

LAN PERFORMANCE | ASSURED CORE PERFORMANCE | LAN PERFORMANCE | ASSURED ACCESS PERFORMANCE | LAN/WI-FI PERFORMANCE

M_1 | M_2 | M_3 | M_4 | M_5 | M_6

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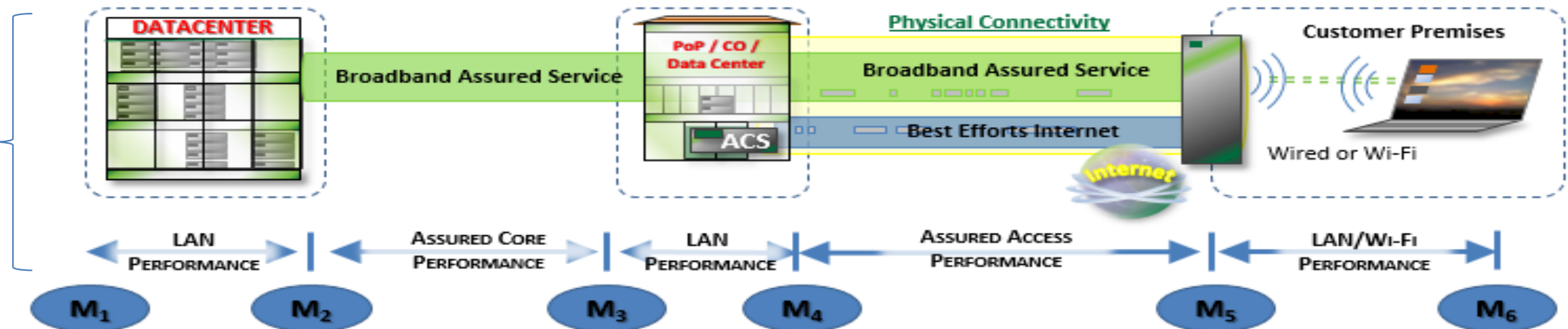
New Project: NFV Architecture Design Principles (SD-397)

- Developed with SDN / NFV Work Area at the BBF
  - List of design principles has been adopted into multiple projects to facilitate the "pivot" of the BBF to NFV architecture design methodologies
  - Cooperation with ETSI NFV ISG as a 'NOC' whitepaper too
- Example principles
  - Top Down - Means the customer view not the provider view
  - Don't get in the way of the Provider, or Customer (stop at the 'right' point)
  - Have a common platform approach
  - Use a framework & modelling vs. hardcoding
  - Modularity to enable adopting the best of breed solutions
  - Meta-Class approach
  - Customer Portal Automation vs. automating for the Service Provider
  - CIM overlap prioritization (always choose the Customer abstraction vs. Network)

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Common Information Model

- BBF views expressed in Louisville remain largely unchanged
- However, circumstances have changed – several projects, as discussed, are hinting at the requirement to develop Information Models
  - If we go down that path then we would want to do this in a way that maps to other SDO / OS projects