



Creating Infinite
Possibilities.

Modernizing Subscriber Management on the Road to 10G

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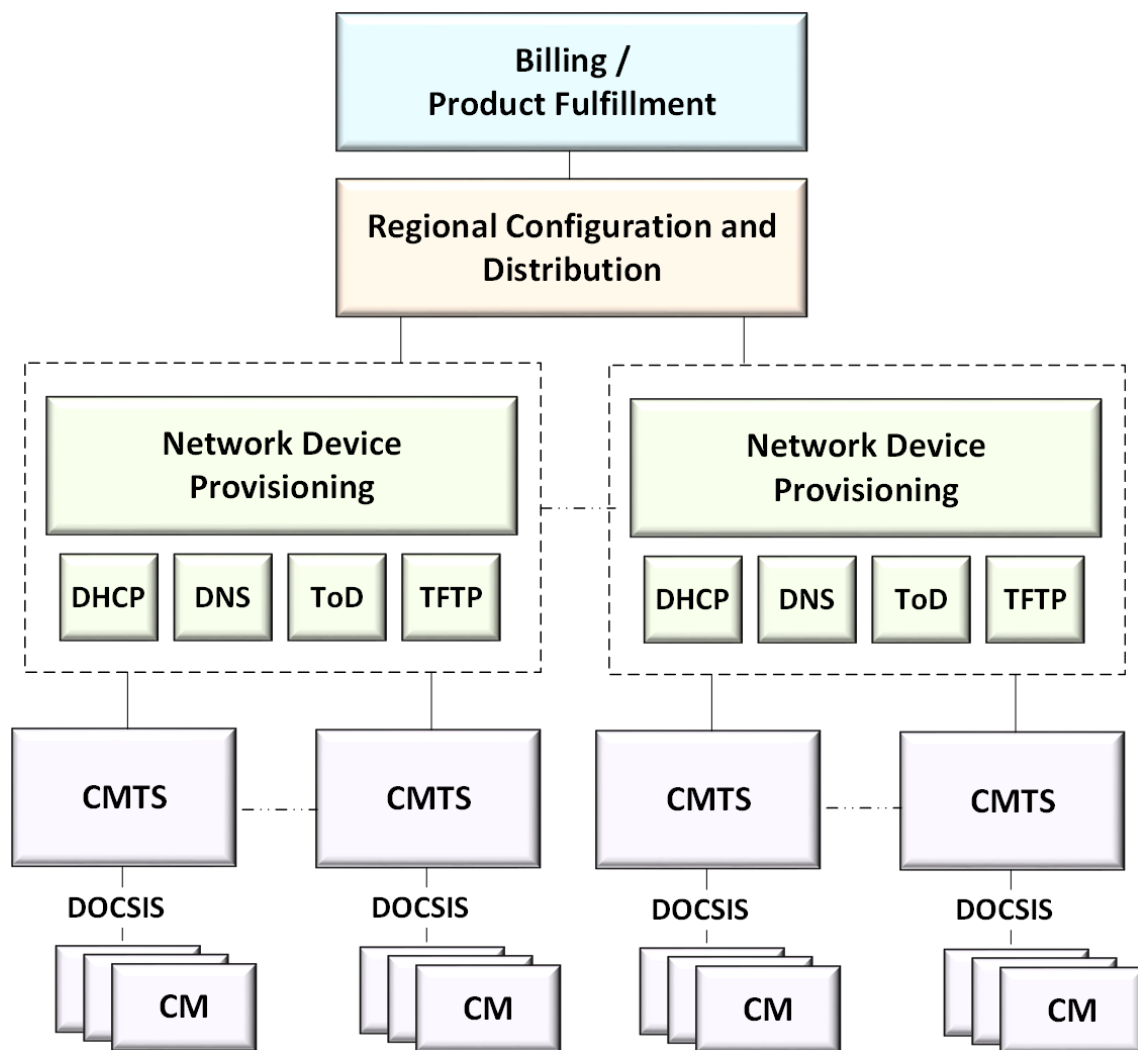
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Outline

- Current Service Fulfillment Architecture and Its Challenges
- A new solution: Device Management Application (DMA)
- Use Cases Enabled by DMA
- Guidelines and Requirements Towards Subscriber Management Systems

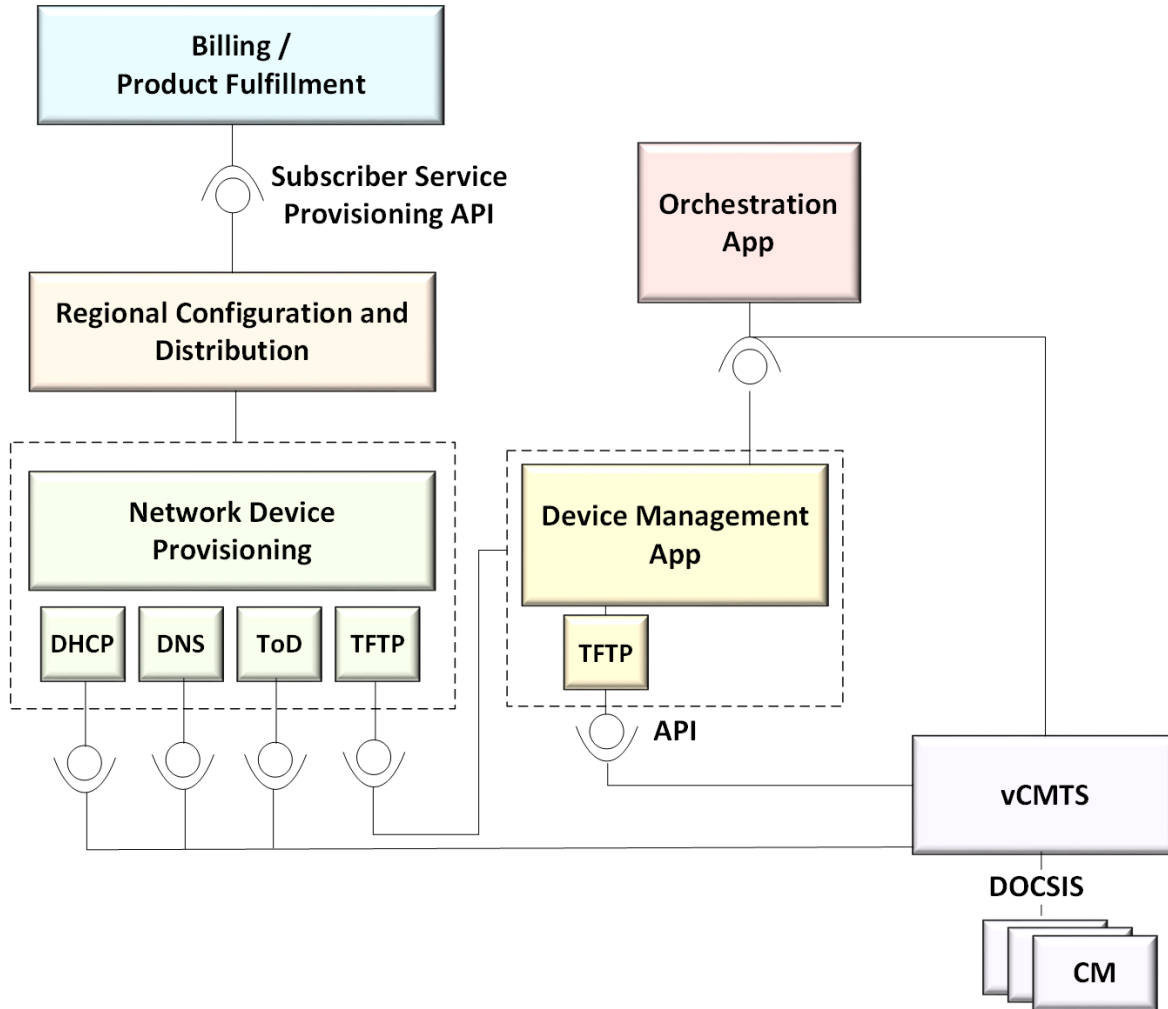
Why do MSOs Need To Modernize Device & Subscriber Management?



Current Service Fulfillment Architecture

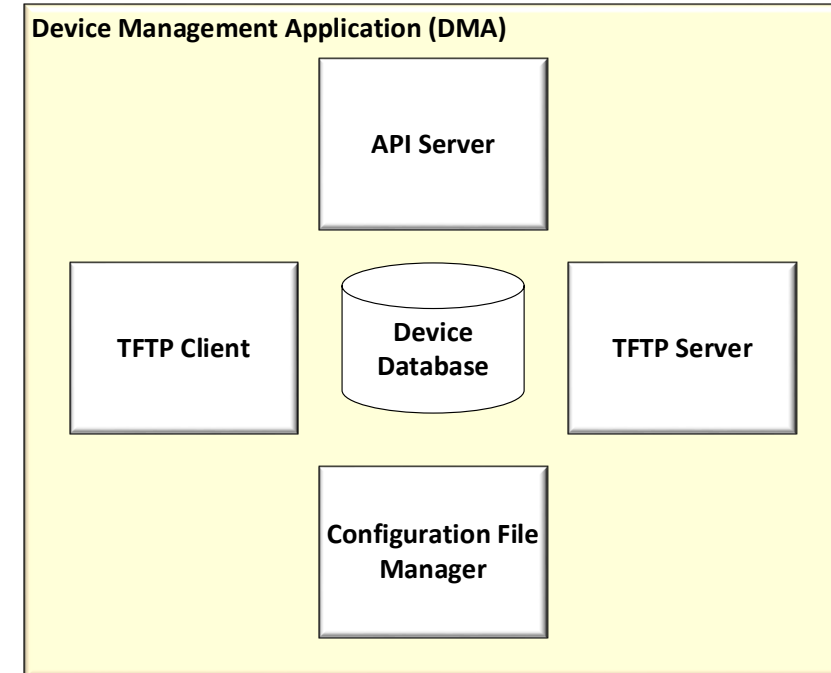
Challenges

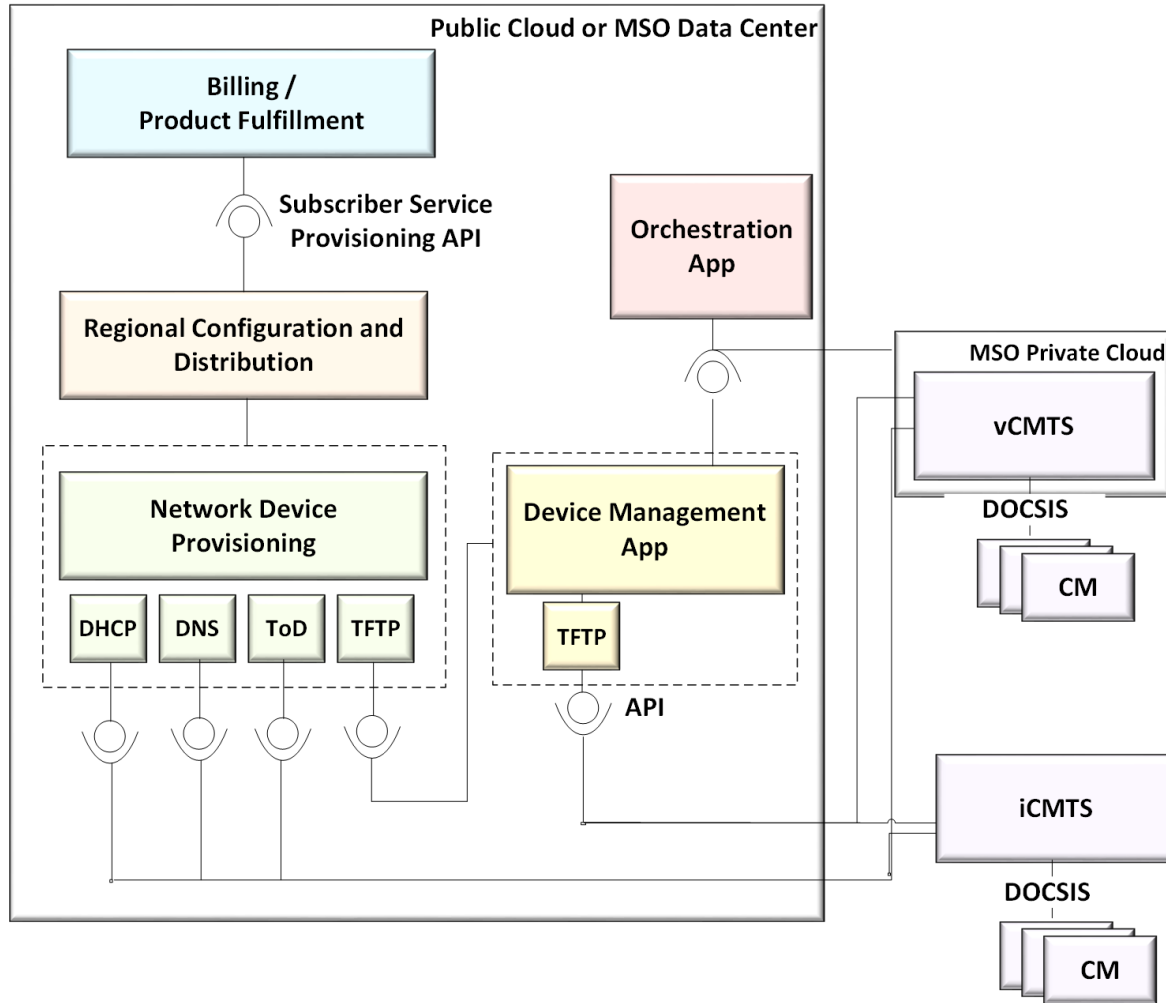
- Scaling
- Service Agility
- Network Programmability
- Operations



Changing Network Device Provisioning DMA Solution

- Backward compatible
- Interoperable
- Incremental





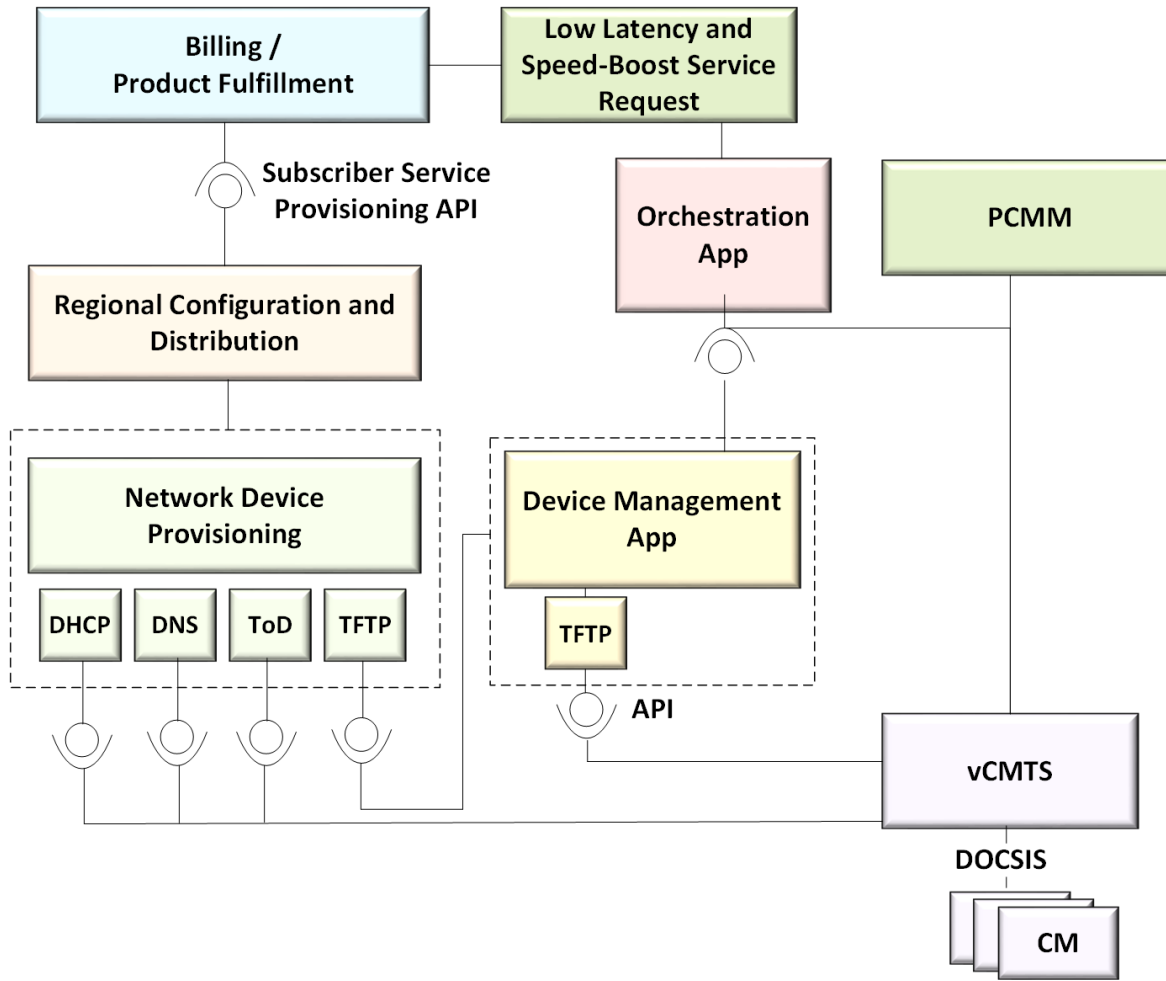
MS Interference Mitigation

Issue

- MS-CPE's upstream OFDMA signal may leak into the SS-CPE's downstream RF front end.
- MS-CPEs may not operate in the full OFDMA channel due to old drop-amps

Solution

- CMTS learns device interference status from DMA
- CMTS enforces the OFDMA channel exclusion as part of the transmit channel set assignment



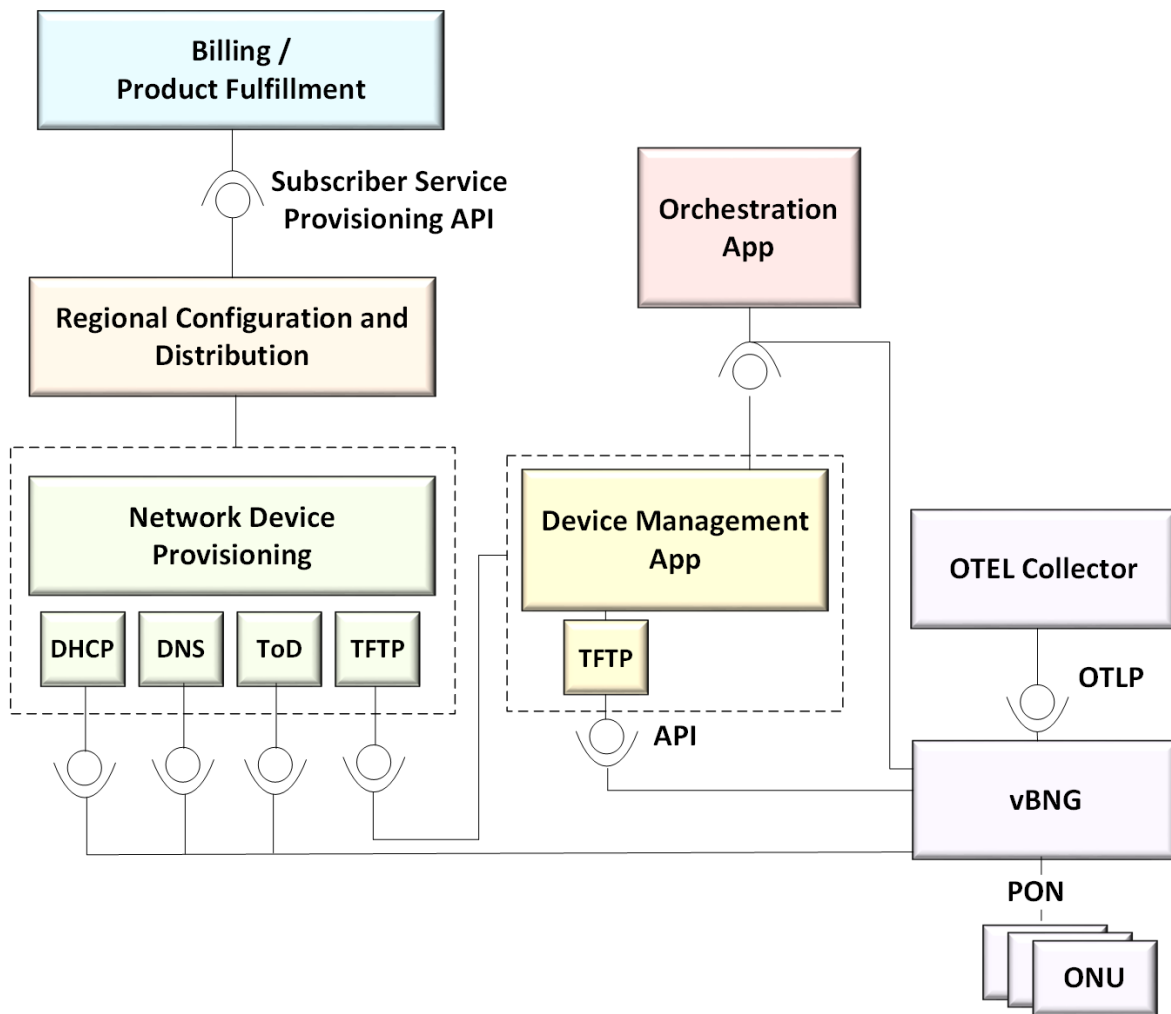
Low Latency and Speed Boost

Issue

- New services such as Low Latency and Speed boost need to support subscriber's runtime changes
- Service interruption (resets) must be avoided

Solution

- CM initialization and Primary SF activation are done via DMA
- Dynamic SFs are deployed via modified PCMM integrated with an Orchestration App



Access Technology Agnostic Management

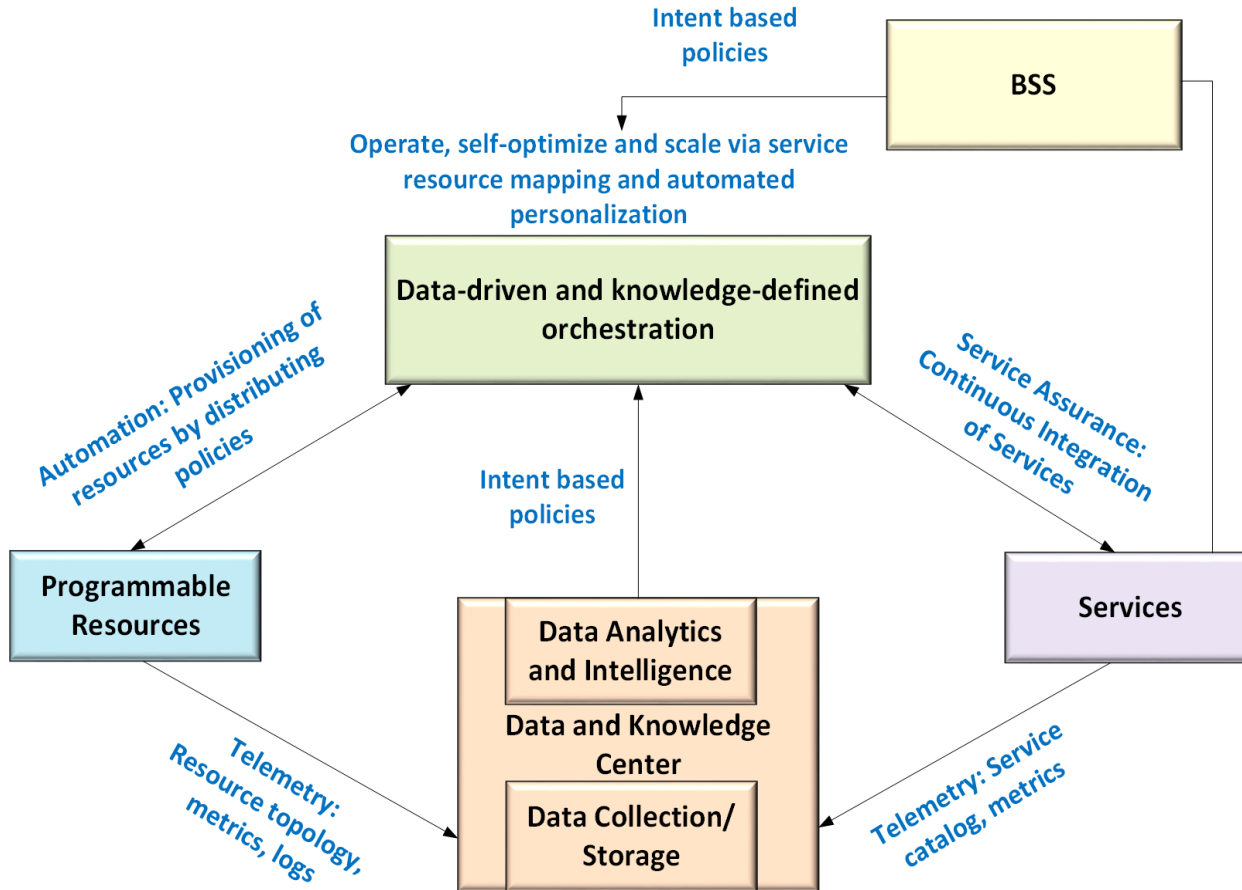
Issue

- MSOs deploy HFC, PON, Ethernet and Wireless access technologies with different provisioning systems
- Common functionalities are deployed and operated separately

Solution

- vBNG gets vCM configuration via DMA
- Orchestration App unifies common subscriber and device management functionalities

4As: Any content, Anywhere, Anytime and on Any device



- Abstracted service and digitized resource management
- Data and knowledge center based on cloud-enabled and push-based telemetry
- Data-driven orchestration for self-optimizing and scaling systems
- Microservices instead of monolithic functionalities and meshed service chains
- Containerized SW for faster initiation, efficient execution, and better isolation
- Zero touch installation and self-activation systems
- Customer centric personalization without requiring customized designs and operations



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Thank You!

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