ONAP Data Models Convergence
Two Data Models: Collision?

NFV Profile, SOL 001
- Addresses the needs of vendors for onboarding
- Accurately reflects ETSI IFA
- Culture: standardization organization
- Implementation: mostly TOSCA syntax, less about TOSCA semantics

ONAP DM
- Addresses the needs of service providers for composition and orchestration
- Supports ETSI IFA, yet not similar enough
- Culture: open-source software development
- Implementation: TOSCA semantics
Two Data Models in R3: Synergy!

Onboarding
- NFV Profile
- SOL 001
- HEAT
- ONAP DM

Composition
- ONAP DM

Orchestration
- ONAP DM

Operation
- ONAP DM

- Data model tailored per step, perfect fit
- Straightforward translation between the models
- Strengths combined, weaknesses contained
- Onboarding inputs aligned with IFA 011 2.4.1

- Known precedents for multiple DMs in a system:
  - DB warehouses ETL
  - microservices

All onboarding inputs aligned with IFA 011 2.4.1
Design-Time Model in R2

• Support for 3 onboarding data models
  • HEAT
  • Amsterdam release w/updates
  • Trimmed SOL001 ???
• Stored in separate directories in SDC
  • /heat – HEAT data model
  • /nfv – Amsterdam release w/updates data model
  • /sol – SOL001 data model
  • /onap – currently empty and will be used for onap data model in R3
• Onboarding data model provider is responsible for adding the needed support for Beijing use cases / functional requirements
  • HEAT – AT&T
  • Amsterdam release – Huawei
  • SOL001 – Nokia ???
ONAP Data Models R3 Proposal
ONAP R2 DM Progress

- ONAP R2 DM wiki page:
  - https://wiki.onap.org/display/DW/Data+Model+align+with+TOSCA+NFV+Profile
- Support VoLTE Usecase / vCPE Usecase basic requirement with unified ONAP R2 Resource DM
- Support HPA related requirement
- Need clean version ASAP
  - Place local_disk that required in vCPE usecase under virtualStorage node or compute node
  - Need Alex / Lianhao help
Need to address in R3

- Deployment Flavor Data Modeling
- Container based VNF Data Modeling
- Auto Scaling related Data Modeling
- Service Data Modeling
R3 Proposal

- Potential enhancement in R3 DM
  - Implement the complex scenario (such as auto scaling, Deployment Flavor) -- same model during whole period: onboarding, composition, orchestration, operation
  - Support container based VNF Data Modeling

- Suggestion
  - Baby step, reduce the risk of R3 implement
  - Based on last release work
  - Code 1st, DM contribution not only Types, but also the related code in corresponding project.
ONAP R3 DM is derived from ONAP R2 DM with necessary enhancement.
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ONAP R3 DM is derived from ONAP R2 DM with necessary enhancement.
R3 Option 2b

Onboarding
- NFV Profile
- SOL 001
- HEAT
- ONAP DM
- ONAP R2 DM
- SDC/VNFSDK

Composition
- ONAP DM
- ONAP R3 DM New define
- SDC

Orchestration
- ONAP DM
- ONAP R3 DM New define
- VF-C/APP-C

Operation
- ONAP DM
- ONAP R2 DM
- VF-C/APP-C/SO

Project Need translator

New Solution DM

1. Each project need adapt new model
2. Or add corresponding translator in their code
3. Re-address the issue that A/B release faced

TOSCA NFV profile

ONAP Internal DM
Option 1: Enhanced based on ONAP R2 DM
   - implement the complex scenario (such as auto scaling, Deployment Flavor) -- same model during whole period: onboarding, composition, orchestration, operation
   - Only Change what’s required in R3

Option 2: New solution with translator
   - Rework for implement the IM and get requirement from each use case / project? Big challenge in R3.
   - Support translator from ARC perspective
     - Bidirectional Translation
     - Aligned with IM
     - Need clarify affected project?
<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2(2a/2b TBD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>Medium (Part of DM has been Implemented in R2)</td>
<td>Large (Start from 0)</td>
</tr>
<tr>
<td>ARC Influence</td>
<td>No</td>
<td>Need to support translator from ARC perspective</td>
</tr>
<tr>
<td>Benefit</td>
<td>1. Less work</td>
<td>1. More implementable?</td>
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<tr>
<td></td>
<td>2. Baby step, low risk</td>
<td>2. Cover more scenario?</td>
</tr>
<tr>
<td></td>
<td>3. already get consensus in R2</td>
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