ONAP Data Models Convergence

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Two Data Models: Collision?

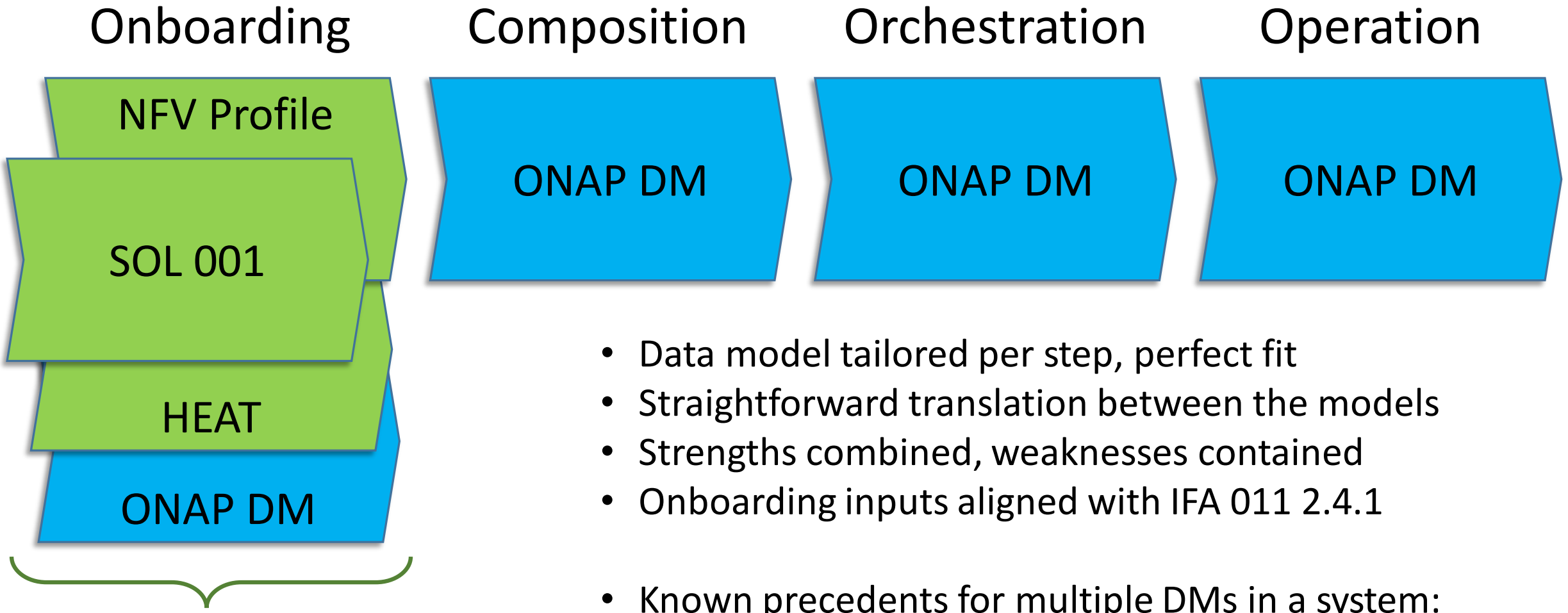
NFV Profile, SOL 001

- 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!



- 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

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

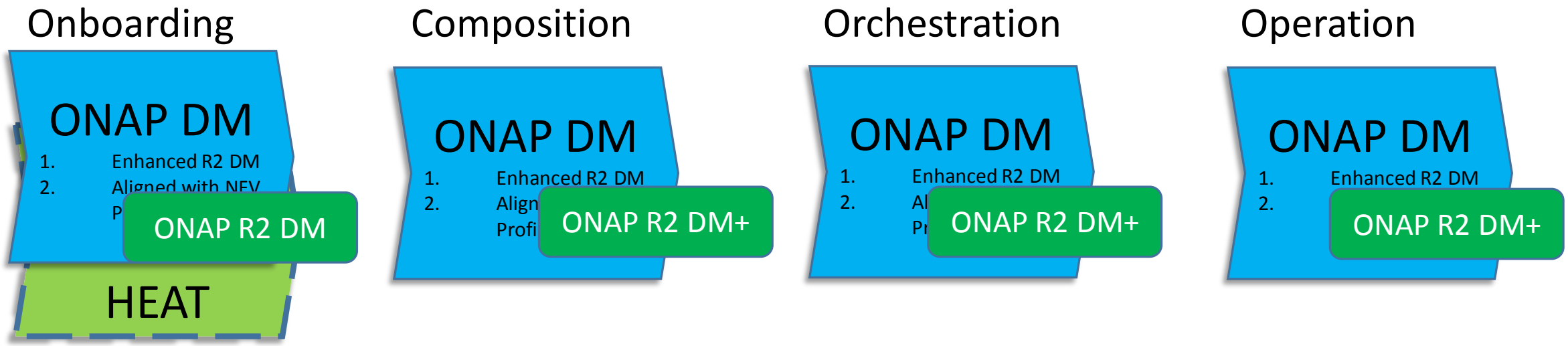
Need to address in R3

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

R3 Proposal

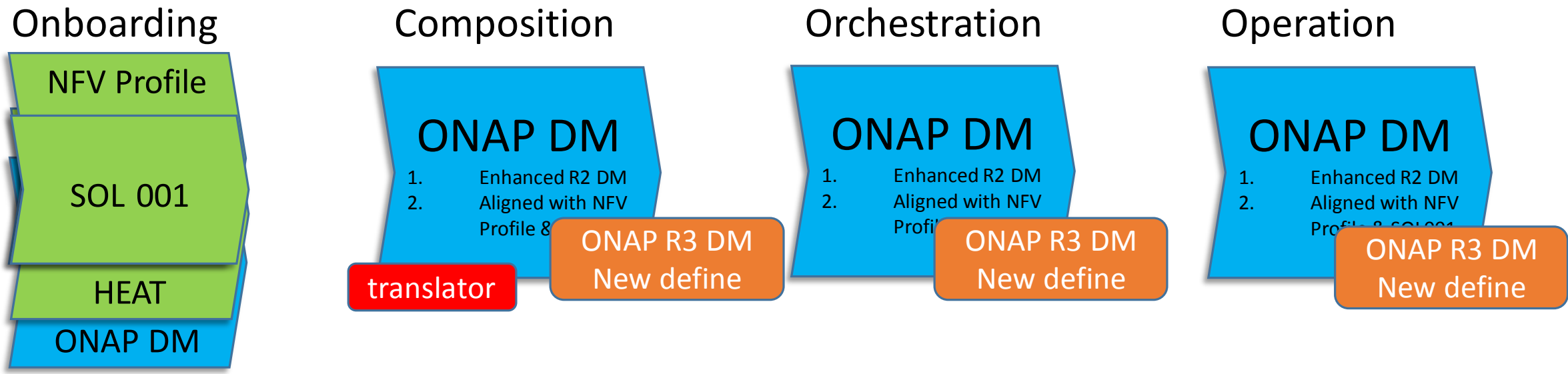
- Potential enhancement in R3 DM
  - implement the complex scenario(such as auto scaling, Deployment Flavor) -- same model during whole period: onboarding, composition, orchestration, operation
  - Support container based VNF Data Modeling
- Suggestion
  - Baby step, reduce the risk of R3 implement
  - Based on last release work
  - Code 1st, DM contribution not only Types, but also the related code in corresponding project .

R3 Option 1



- ONAP R3 DM is derived from ONAP R2 DM with necessary enhancement

R3 Option 2a



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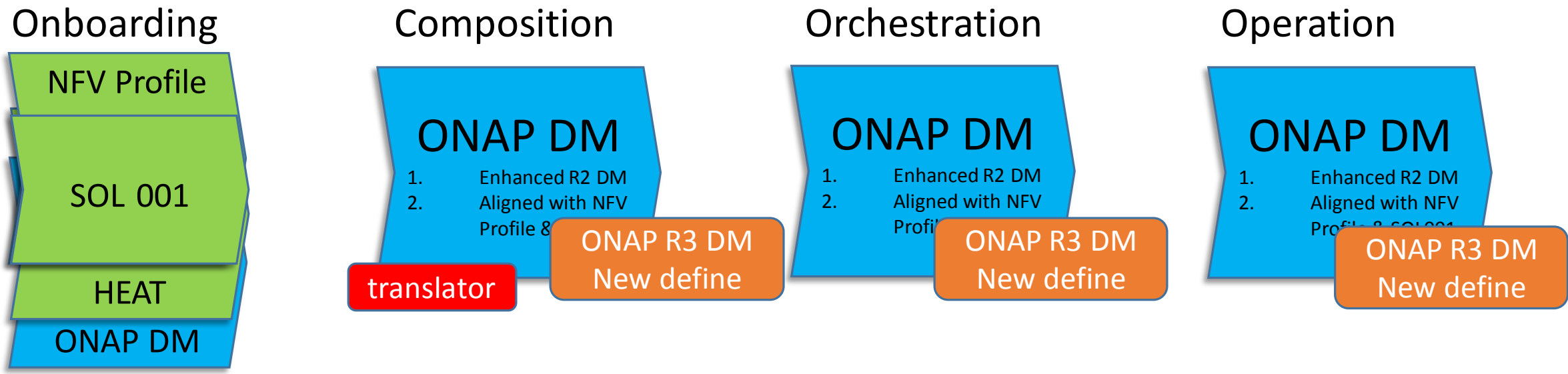
R3 Option 2a



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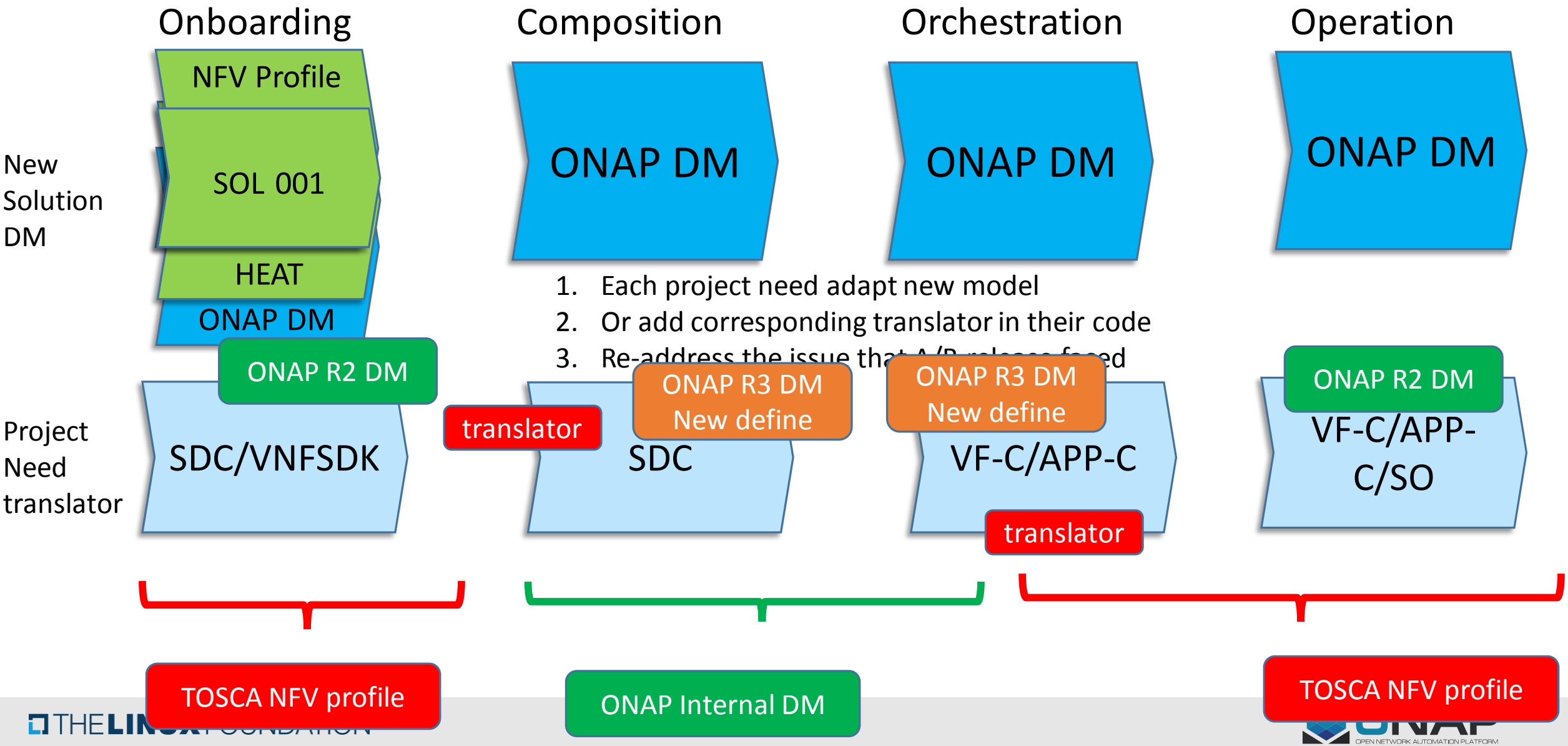
R3 Option 2b


Onboarding
Composition
Orchestration
Operation
New Solution DM
NFV Profile
SOL 001
HEAT
ONAP DM
ONAP DM
ONAP DM
ONAP 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
Project Need translator
ONAP R2 DM
SDC/VNFSDK
translator
ONAP R3 DM New define
SDC
ONAP R3 DM New define
VF-C/APP-C
translator
ONAP R2 DM
VF-C/APP-C/SO
TOSCA NFV profile
ONAP Internal DM
TOSCA NFV profile

R3 DM Option

- 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 ?

Option Comparison

	Option 1	Option 2(2a/2b TBD)
Workload	Medium (Part of DM has been Implemented in R2)	Large (Start from 0)
ARC Influence	No	Need to support translator from ARC perspective
Benefit	1. Less work 2. Baby step, low risk 3. already get consensus in R2	1. More implementable? 2. Cover more scenario?