

# ONAP R3 Modeling High Level Requirements

Based on timeplan of modeling subcommittee, high level requirements need to be finished by M0,

There are 4 categories of high level requirement,

- 1) Will be implemented and included in the release 3
- 2) Documentation after implemented, or implemented but not in the release
- 3) Lower Priority:
- 4) Experimental:

The first category is that those requirement will be implemented and committed by the impacted projects in this release

the second category will document the current implementation in those projects.

Other two categories like lower priority and experimental will not be included in the release 3, the contributor will work with best effort to influence future release.

Owners of each requirement needs to coordinate the modeling spec commitment and code commitment with PTLs of impacted project.

## 1) Will be implemented and included in the release 3

| Modeling Domain | Modeling Requirement | Modeling Requirement Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Impacted Projects                         | Use Case Relevance     | Modeling Spec Commitment | Code Commitment | Provider Priority | Mapping to M1 requirement                                        | Owner                                                                                                                                                                                                                                                                         |
|-----------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------|--------------------------|-----------------|-------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resource        | VNFD                 | ONAP Resource Data Model for Design Time?<br><br>-Agreement that the VNF Descriptor model for On-Boarding and the Internal ONAP models are distinct. (note: an internal model may be used as one of the on-boarding options)<br>•For R3 the VNF Descriptor On-Boarding options include: HEAT and TOSCA (SOL004 v2.5.1 VNF Package, ONAP R3 Resource DM) (see note)<br>-Acknowledgement that there are two Internal ONAP VNF Descriptor Data Models that, for R3, will evolve wherever possible in a coordinated way in support of the Casablanca Use Cases<br>•ONAP R2+ Design-Time Resource DM clean version enhancements for VoLTE, CCVPN, vCPE (stretch goal)<br>•ONAP SDC TOSCA AID enhancements for vCPE<br>-Engage impacted ONAP Components to understand the VNF Descriptor aspects of these two Internal ONAP R3 Resource Data Models are applied<br>•Document ONAP R3 VNFD on-boarding and internal models roadmap with all ONAP components stakeholders | SDC<br>A&AI<br>OOF<br>SO<br>VFC<br>Policy | VoLTE<br>VCPE<br>CCVPN | AT&T<br>Intel            | AT&T<br>Intel   | AT&T: High        | SDC (Y)<br>A&AI (Y)<br>SO (Y)<br>OOF(Y)<br>Policy (Y)<br>VFC (Y) | <a href="#">Andy Mayer</a> (AT &T)<br><br><a href="#">Anatoly Katzman</a> (AT&T)<br><br><a href="#">maopeng zhang</a>                                                                                                                                                         |
|                 | PNF for 5G           | software version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SDC<br>SO                                 | 5G                     |                          | Nokia           |                   | SDC (Y)<br>SO (Y)                                                | <a href="#">Benjamin Cheung</a><br><br><a href="#">shitao li</a><br><br><a href="#">Michela Bevilacqua</a><br><br><a href="#">Jacqueline Beaulac</a><br><br><a href="#">maopeng zhang</a><br><br><a href="#">Hongliang Bian</a><br><br><a href="#">Chesla Wechsler</a> (AT&T) |

## 2) Documentation after implemented, or implemented but not in the release

| Modeling Domain | Modeling Requirement    | Modeling Requirement Description                                                                                                                                                                                                                                                                                                                          | Impacted Projects                                                                                    | Use Case Relevance                    | Modeling Spec Commitment                                       | Code Commitment                             | Provider Priority                                          | Mapping to M1 requirement                                                                | Owner                                     |
|-----------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------|
| Service         | Service Order           | It includes the definition of the managed objects that allows a BSS system to create/delete /update/get an order of a service to a ONAP instance. The Service Order Modeling provided by Ext API R2 team must be reviewed to become part of the ONAP common service IM<br><br>(Service Order - Information Model View)                                    | Ext API(y)                                                                                           | VoLTE<br>CCVPN<br>Change Mgt          | CMCC<br>Huawei<br>ZTE<br>Vodafone<br>AT&T<br>Verizon<br>Orange | CMCC<br>Huawei<br>ZTE<br>Vodafone<br>Orange | CMCC: High<br>Vodafone: High<br>AT&T: High<br>Verizon-High | ExtAPI (Y)                                                                               | Andy Mayer (AT &T)                        |
|                 | Service Catalog         | A Service Catalog is a group of ServiceDescriptors that an organization provides to the consumers via ONAP.<br><a href="https://wiki.mef.net/display/CESG/Service+Catalog">https://wiki.mef.net/display/CESG/Service+Catalog</a>                                                                                                                          | Ext API                                                                                              | VoLTE<br>CCVPN                        | CMCC<br>Huawei<br>ZTE<br>Vodafone<br>AT&T<br>Verizon<br>Orange | CMCC<br>Huawei<br>ZTE<br>Orange             | CMCC: High<br>Vodafone: High<br>AT&T: High<br>Verizon-High | ExtAPI (Y)                                                                               | Kevin Scaggs (AT&T)                       |
|                 | Service Descriptor      | Design time model: service descriptor model,<br><br>document the existing service model in SDC                                                                                                                                                                                                                                                            | Ext API<br>SO<br>SDC                                                                                 | (All)<br>VoLTE<br>CCVPN<br>5G<br>vCPE | CMCC<br>Huawei<br>ZTE<br>Vodafone<br>AT&T<br>Verizon<br>Orange | CMCC<br>Huawei<br>ZTE<br>Orange             | CMCC: High<br>Vodafone: High<br>AT&T: High<br>Verizon-High | SDC (Y)<br>EXTAPI(Y)<br>SO(Y)                                                            | LIN MENG (CMCC)                           |
| Resource        | License                 | Presently modeled and used in SDC, (ONAP license model)                                                                                                                                                                                                                                                                                                   | SDC (No impact, information providing only)                                                          |                                       | AT&T<br>Verizon                                                |                                             | AT&T: Medium<br>Verizon-Medium                             | SDC (Y)                                                                                  | Kevin Scaggs(AT &T)                       |
|                 | Alloted resource        | 1 document the existing SDCs current implementation<br><br>2 continue to work on the feature. (maybe some implementation will follow these features)                                                                                                                                                                                                      | SDC                                                                                                  | All                                   | AT&T<br>Intel                                                  | AT&T<br>Intel                               | AT&T: High                                                 | SDC (Y)                                                                                  | Andy Mayer (AT &T)                        |
|                 | Scaling (HEAT template) | <a href="#">Scaling Use Case Extension</a> .<br><br>Casablanca focus: Document the Policy Model that is being implemented by the ONAP Policy Framework.                                                                                                                                                                                                   | SDC (no impact)<br><br>A&AI (no impact)<br><br>SO (no impact)<br><br>Policy<br><br>Clamp (no impact) | vDNS (Scaling)                        | AT&T                                                           |                                             | CMCC: Medium<br>Vodafone: Medium<br><br>AT&T: High         | SDC (no impact)<br>A&AI (no impact)<br>SO (no impact)<br>Policy (Y)<br>Clamp (no impact) | Andy Mayer (AT &T)<br>Gil Bullard ((AT&T) |
|                 | ResourceCompo site      | <ul style="list-style-type: none"> <li>the composition relationship between different resources which is implemented by the current SDC code shall be documented</li> <li>the semantics rules of the current SDC/VNFSDK implementation shall be documented; potential new rules would be captured and brought back to SDC for the next release</li> </ul> | SDC<br>VNFSDK(y)                                                                                     | VoLTE<br>CCVPN                        | CMCC<br>Huawei<br>ZTE<br>Vodafone<br>AT&T<br>Verizon<br>Intel  | CMCC<br>Huawei<br>ZTE Intel                 | CMCC: High<br>Vodafone: High<br>AT&T: High<br>Verizon-High | SDC (Y)<br>VNFSDK (Y)                                                                    | Xu Yang<br>maopeng zhang                  |
|                 | Network Service         | 1 create a data model for network service                                                                                                                                                                                                                                                                                                                 | SDC<br>VFC                                                                                           | VoLTE<br>CCVPN<br>5G                  | CMCC<br>Huawei<br>ZTE<br>AT&T                                  | CMCC<br>Huawei<br>ZTE                       | CMCC: High<br>Vodafone: High<br><br>AT&T: Medium           | SDC (Y)<br>VFC (Y)                                                                       | Chuyi Guo<br>maopeng zhang                |

|           |              |                                                       |             |  |                 |  |                            |                    |                                                                                                                                       |
|-----------|--------------|-------------------------------------------------------|-------------|--|-----------------|--|----------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Telemetry | Events & VES | VES Event Descriptor Model according to VES spec v6.0 | DCAE<br>SDC |  | AT&T<br>Verizon |  | AT&T: High<br>Verizon-High | DCAE(Y)<br>SDC (Y) | <a href="#">Kevin Scaggs(AT &amp;T)</a><br><br><a href="#">Jessie S Jewitt</a><br><br>(ARM)<br><br><a href="#">Michela Bevilacqua</a> |
|-----------|--------------|-------------------------------------------------------|-------------|--|-----------------|--|----------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------|

Below tables are not downgrade, but casablanca won't make it

### 3) Lower Priority:

| Modeling Domain | Modeling Requirement | Modeling Requirement Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Impacted Projects                        | Use Case Relevance                          | Modeling Spec Commitment                                                               | Code Commitment                        | Provider Priority                                                      | Owner                                   |
|-----------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------|-----------------------------------------|
| Service         | servicecomposite     | Design/run time model : Service IM review according to the agreed Service Composite pattern. ( <a href="#">Composite Pattern UML diagram</a> )                                                                                                                                                                                                                                                                                                                                   | SDC (L)<br>Ext API (=SDC)<br><br>SO      | VoLTE<br>CCVPN                              | CMCC<br>Huawei<br><br>ZTE<br><br>Vodafone<br><br>AT&T<br><br>Verizon                   | CMCC<br>Huawei<br><br>ZTE              | CMCC: High<br>Vodafone: High<br><br>AT&T: High<br><br>Verizon-High     | <a href="#">shitao li</a>               |
|                 | Service Scaling      | A run time service instance could be updated by scaling in/out its capacity via deleting/adding new resources instances, e.g. sites in CCVPN usecase.                                                                                                                                                                                                                                                                                                                            | SDC<br>SO<br><br>AAI                     | VoLTE<br>CCVPN                              | CMCC<br>Huawei<br><br>ZTE<br><br>Vodafone<br><br>AT&T<br><br>Verizon                   |                                        | CMCC: High<br>Vodafone: High<br><br>AT&T: Medium<br><br>Verizon-Medium | <a href="#">LIN MENG</a>                |
|                 | Service Instance     | Run time model: service instance model in relation to the design time model and Service Composite pattern. ( <a href="#">Composite Pattern UML diagram</a> )                                                                                                                                                                                                                                                                                                                     | A&AI<br><br>Ext API<br><br>SO<br><br>SDC | (All)<br><br>VoLTE<br><br>CCVPN<br><br>vCPE | CMCC<br><br>Huawei<br><br>ZTE<br><br>Vodafone<br><br>AT&T<br><br>Verizon<br><br>Orange |                                        | CMCC: High<br>Vodafone: High<br><br>AT&T: High<br><br>Verizon-High     | <a href="#">Kevin Scaggs(AT &amp;T)</a> |
| Resource        | ResourceComposite    | Design time model: Resource composite model introduction according to the agreed Service Composite pattern. It includes the NS model review from Service component to Resource Composite and change of Modeling Domain ( <a href="#">Composite Pattern UML diagram</a> )<br><br>The ResourceComposite includes below sub-requirements: <ul style="list-style-type: none"> <li>support composite pattern (i.e., ResourceAtomic and ResourceComposite) in the IM and DM</li> </ul> | SDC(->)<br><br>VNFSDK                    | VoLTE<br><br>CCVPN                          | CMCC<br><br>Huawei<br><br>ZTE<br><br>Vodafone<br><br>AT&T<br><br>Verizon<br><br>Intel  | CMCC<br><br>Huawei<br><br>ZTE<br>Intel | CMCC: High<br>Vodafone: High<br><br>AT&T: High<br><br>Verizon-High     | <a href="#">Xu Yang</a>                 |

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| Network Service (modeling subcommittee DM approve firstly) | <p>Context:</p> <ol style="list-style-type: none"> <li>In R2 VoLTE case, SDC support VoLTE service composed of IMS /EPC service as VNF. IMS/EPC Service can be composed of VNF, and VLD resources.<br/>In service layer, VOLTE service should focus on the IMS/EPC/... service composition, not coupled with the specific IMS/EPC/... resource composition. In the different scenes, IMS service can be implemented in different resources layer, for example, small capacity or large capacity, VNF in one DC or VNF on multiDC, even all PNFs or PNFs/VNFs, etc The multiple resource composition should not affected the service design. So network service is introduced, which is in charge of different IMS resource composition and let the service design not coupled with the resource composition design in detail.</li> <li>TMF support service and resource, and also in resource layer, there is resource composite. and Network service from ETSI can be mapping to the resource composite</li> <li>model subcommittee progress:</li> </ol> <p>Network service is agreed in resource IM group. <a href="#">Networkservice IM</a> Network service Descriptor has been discussed in DM group. <a href="#">Networkservice DM</a></p> <ol style="list-style-type: none"> <li>SDC progress</li> </ol> <p><a href="#">org.openecomp.resource.vfc.NSD</a> has been imported in ONAP catalog in R2 <a href="https://gerrit.onap.org/r/gitweb?p=sd-c.git;a=tree;f=catalog-be/src/main/resources/import/tosca/nfv-types/NSD;h=b1f5cabb52dc41025f4708c7c095e304196e7e6a6;hb=refs/heads/master">https://gerrit.onap.org/r/gitweb?p=sd-c.git;a=tree;f=catalog-be/src/main/resources/import/tosca/nfv-types/NSD;h=b1f5cabb52dc41025f4708c7c095e304196e7e6a6;hb=refs/heads/master</a></p> <p>SDC functionality does not support NSD yet in R2</p> <p>SDC requiremnets in R3:</p> <ol style="list-style-type: none"> <li>SDC design UI, catalog(FE,BE,Database, API) shall support NS and related package based on <a href="#">R2 link</a></li> <li>In resource design, NS descriptor shall be composed of VNFD, and VLD at least to support VoLTE based on <a href="#">R2 resources</a></li> <li>In service design, service descriptor could be composed of the NSD.</li> <li>NS descriptor shall refinement to support <a href="#">R3 NS DM Proposal</a>( Stretch goal)</li> </ol> | SDC                                                                                                             | VoLTE CCVPN<br><br>5G             | CMCC Huawei<br><br>ZTE<br><br>AT&T                         | CMCC Huawei<br><br>ZTE | CMCC: High Vodafone: High<br><br>AT&T: Medium                       | <a href="#">Chuyi Guo</a><br><a href="#">maopeng zhang</a>                                                                                                                            |
| VNF instance (run time)                                    | <a href="#">Run time model of a VNF instance</a><br><br>(low)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A&AI                                                                                                            | VoLTE CCVPN<br><br>5G<br><br>vCPE | CMCC Huawei<br><br>ZTE<br><br>AT&T<br><br>Verizon<br>Intel | CMCC Huawei<br><br>ZTE | CMCC: High Vodafone: High<br><br>AT&T: High<br><br>Verizon-High     | <a href="#">Kevin Scaggs</a> (AT&T)<br><a href="#">Jessie S Jewitt</a> (ARM)<br><br><a href="#">maopeng zhang</a>                                                                     |
| PNF instance (run time)                                    | Run time model of a PNF Instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SDNC<br>A&AI<br><br>SO                                                                                          | VoLTE CCVPN<br><br>5G             | CMCC Huawei<br><br>ZTE<br><br>Vodafone                     | CMCC Huawei<br><br>ZTE | CMCC: Medium Vodafone: Medium                                       | <a href="#">Weitao Gao</a><br><a href="#">Michela Bevilacqua</a><br><br><a href="#">Jacqueline Beaulac</a><br><br><a href="#">maopeng zhang</a><br><br><a href="#">Hongliang Bian</a> |
| WAN Connection                                             | <a href="#">Wan Connection Information Model</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SDC(->) SO<br><br>A&AI<br><br>SDNC                                                                              | VoLTE CCVPN                       | CMCC Huawei<br><br>ZTE<br><br>AT&T<br><br>Verizon          | CMCC Huawei<br><br>ZTE | CMCC: High Vodafone: High<br><br>AT&T: Medium<br><br>Verizon-Medium | <a href="#">Zhuoyao Huang</a><br><a href="#">Chuanyu Chen</a><br><br><a href="#">Gaurav Agrawal</a>                                                                                   |
| SD-WAN                                                     | <a href="#">CCVPN SD-WAN Information Model</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                 |                                   | CMCC Huawei<br><br>AT&T<br><br>Verizon                     |                        | CMCC: High Vodafone: High<br><br>AT&T: Medium<br><br>Verizon-High   | <a href="#">Chuanyu Chen</a><br><a href="#">Gaurav Agrawal</a>                                                                                                                        |
| ElementGroup enhancement (lower)                           | Tied to modeling of Scaling, Homing, Placement, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | SDC SO                                                                                                          |                                   | AT&T                                                       |                        | AT&T: Medium                                                        | <a href="#">Andy Mayer</a> (AT&T)<br><a href="#">Kevin Scaggs</a> (AT&T)                                                                                                              |
| Infrastructure                                             | Multi-cloud                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | The cloud abstractions needed for homing in the edge cloud across public cloud and service-provider-owned-cloud | Multicloud                        | <a href="#">Edge automation</a>                            | AT&T                   | AT&T: Medium                                                        | <a href="#">Arun Gupta</a> (AT&T)<br><br><a href="#">Jessie S Jewitt</a> (ARM)                                                                                                        |
| Telemetry                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                 |                                   |                                                            |                        |                                                                     |                                                                                                                                                                                       |

#### 4) Experimental:

| Modeling Domain | Modeling Requirement          | Modeling Requirement Description                                                                                                                                                                                              | Impacted Projects | Use Case Relevance | Modeling Spec Commitment | Code Commitment | Provider Priority | Owner                                                                                   |
|-----------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------|--------------------------|-----------------|-------------------|-----------------------------------------------------------------------------------------|
| Resource        | Container                     | Resource modeling changes in the IM, design time DM and runtime DM                                                                                                                                                            | Multi-Cloud       |                    | Intel                    | Intel           |                   | <a href="#">Alexander Vul</a><br><a href="#">Ethan Lynn</a><br><a href="#">Damon Li</a> |
|                 | Acceleration Management (BoF) | Discussing the requirement for acceleration management in ONAP, including research motivation, problem statement, as well as proposals. Welcome to join this thread.<br><br>( <a href="#">Acceleration Management (BoF)</a> ) |                   |                    |                          |                 |                   | <a href="#">Lei Huang</a>                                                               |