**3GPP TSG-SA5 Meeting #155 *S5-243279***

Jeju, South Korea, 27 - 31 May 2024

**Source: Huawei, Nokia, Nokia Shanghai Bell, ZTE**

**Title: Discussion on the issues for ManagedNFService in generic model in TS 28.622 and TS 28.623**

**Document for: Endorsement**

**Agenda Item: 6.19.13**

# 1 Decision/action requested

The group is asked to discuss and approval.

# 2 References

[1] 3GPP TS 28.622: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS) "

[2] 3GPP TS 28.623: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definitions"

[3] 3GPP TS 28.541: "Management and orchestration; 5G Network Resource Model (NRM); Stage 2 and stage 3"

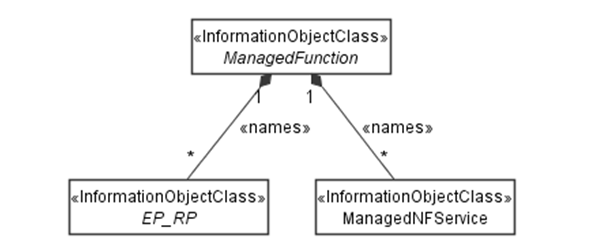
# 3 Rationale

## 3.1 Background

The ManagedNFService IOC is defined in TS 28.622 [1] as follows:

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Abstract from TS 28.622 [1]\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

### 4.2.1 Relationships



### *4.3.17 ManagedNFService*

#### *4.3.17.1 Definition*

*A ManagedNFService represents a Network Function (NF) service as defined in clause 7 of 3GPP TS 23.501[22].*

#### *4.3.17.2 Attributes*

*The ManagedNFService IOC includes attributes inherited from Top IOC (defined in clause 4.3.29) and the following attributes:*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Attribute Name* | *S* | *isReadable* | *isWritable* | *isInvariant* | *isNotifyable* |
| *administrativeState* | *M* | *T* | *T* | *F* | *T* |
| *operationalState* | *M* | *T* | *F* | *F* | *T* |
| *userLabel* | *O* | *T* | *T* | *F* | *T* |
| *nFServiceType* | *M* | *T* | *F* | *T* | *F* |
| *sAP* | *M* | *T* | *T* | *F* | *T* |
| *operations* | *M* | *T* | *T* | *F* | *T* |
| *usageState* | *M* | *T* | *F* | *F* | *T* |
| *registrationState* | *CM* | *T* | *F* | *F* | *T* |

#### *4.3.17.3 Attribute constraints*

*Attribute constraint for registrationState: The attribute registrationState should be supported by instance of a ManagedNFService if the service is designed for being published and discovered by other NFs, and need to be registered to a repository function. E.g. Authentication service provided by AUSF should include this attribute. NF management services provided by NRF don’t include this attribute.*

#### *4.3.17.4 Notifications*

*The common notifications defined in clause 4.5 are valid for this IOC, without exceptions or additions*

### 4.4.1 Attribute properties

The following table defines the properties of attributes specified in the present document.

|  |  |  |
| --- | --- | --- |
| *……* |  |  |
| *nFServiceType* | *The parameter defines the type of the managed NF service instance*  *allowedValues: See clause 7.2 of TS 23.501[22]* | *type: ENUM*  *multiplicity: 1*  *isOrdered: N/A*  *isUnique: N/A*  *defaultValue: None*  *isNullable: False* |
| *operations* | *This parameter defines set of operations supported by the managed NF service instance.*  *allowedValues: See TS 23.502[23] for supporting operations* | *type: Operation*  *multiplicity: 1..\**  *isOrdered: False*  *isUnique: True*  *defaultValue: None*  *isNullable: False* |
| *Operation.name* | *This parameter defines the name of the operation of the managed NF service instance.*  *allowedValues: N/A* | *type: String*  *multiplicity: 1*  *isOrdered: N/A*  *isUnique: N/A*  *defaultValue: None*  *isNullable: True* |
| *allowedNFTypes* | *This parameter identifies the type of network functions allowed to access the operation of the managed NF service instance.*  *allowedValues: See TS 23.501[22] for NF types*  *- NRF*  *- UDM*  *- AMF*  *- SMF*  *- AUSF*  *- NEF*  *- PCF*  *- SMSF*  *- NSSF*  *- UDR*  *- LMF*  *- GMLC*  *- 5G\_EIR*  *- SEPP*  *- UPF*  *- N3IWF*  *- AF*  *- UDSF*  *- DN*  *- BSF*  *- CHF*  *- NWDAF*  *- PCSCF*  *- CBCF*  *- HSS*  *- UCMF*  *- SOR\_AF*  *- SPAF*  *- MME*  *- SCSAS*  *- SCEF*  *- SCP*  *- NSSAAF*  *- ICSCF*  *- SCSCF*  *- DRA*  *- IMS\_AS*  *- AANF*  *- 5G\_DDNMF*  *- NSACF*  *- MFAF*  *- EASDF*  *- DCCF*  *- MB\_SMF*  *- TSCTSF*  *- ADRF*  *- GBA\_BSF*  *- CEF*  *- MB\_UPF*  *- NSWOF*  *- PKMF*  *- MNPF*  *- SMS\_GMSC*  *- SMS\_IWMSC*  *- MBSF*  *- MBSTF*  *- PANF*  *- TNGF*  *- W\_AGF*  *- TWIF*  *- TSN\_AF* | *type: ENUM*  *multiplicity: 1..\**  *isOrdered: False*  *isUnique: True*  *defaultValue: None*  *isNullable: False* |
| *operationSemantics* | *This paramerter identifies the semantics type of the operation. See TS 23.502[23]*  *allowedValues: “Request/Response”, “Subscribe/Notify”.* | *type: ENUM*  *multiplicity: 1*  *isOrdered: N/A*  *isUnique: N/A*  *defaultValue: None*  *isNullable: False* |
| *……* |  |  |

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Abstract from TS 28.622 [1]\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

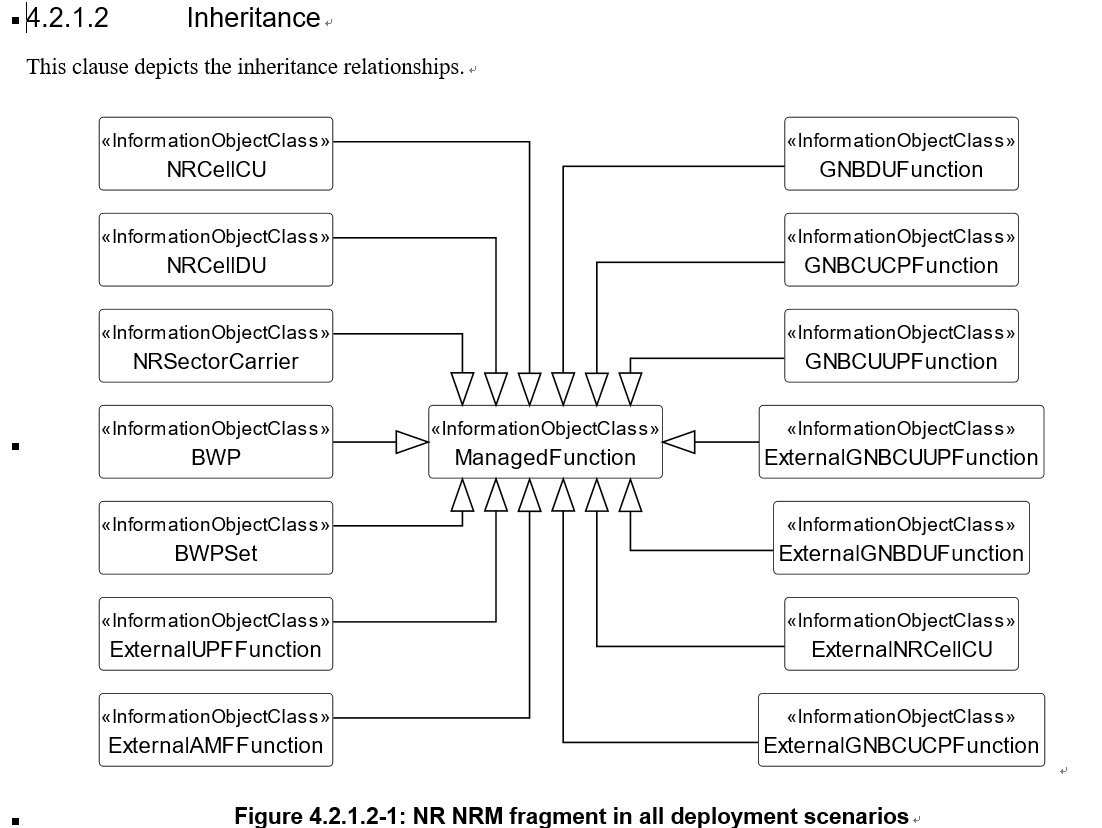
## 3.2 Observations

Based on the analysis of above yellow highlighted text, it is clear that ManagedNFService IOC is only applicable for the management of 5GC NFs defined in TS 23.501.

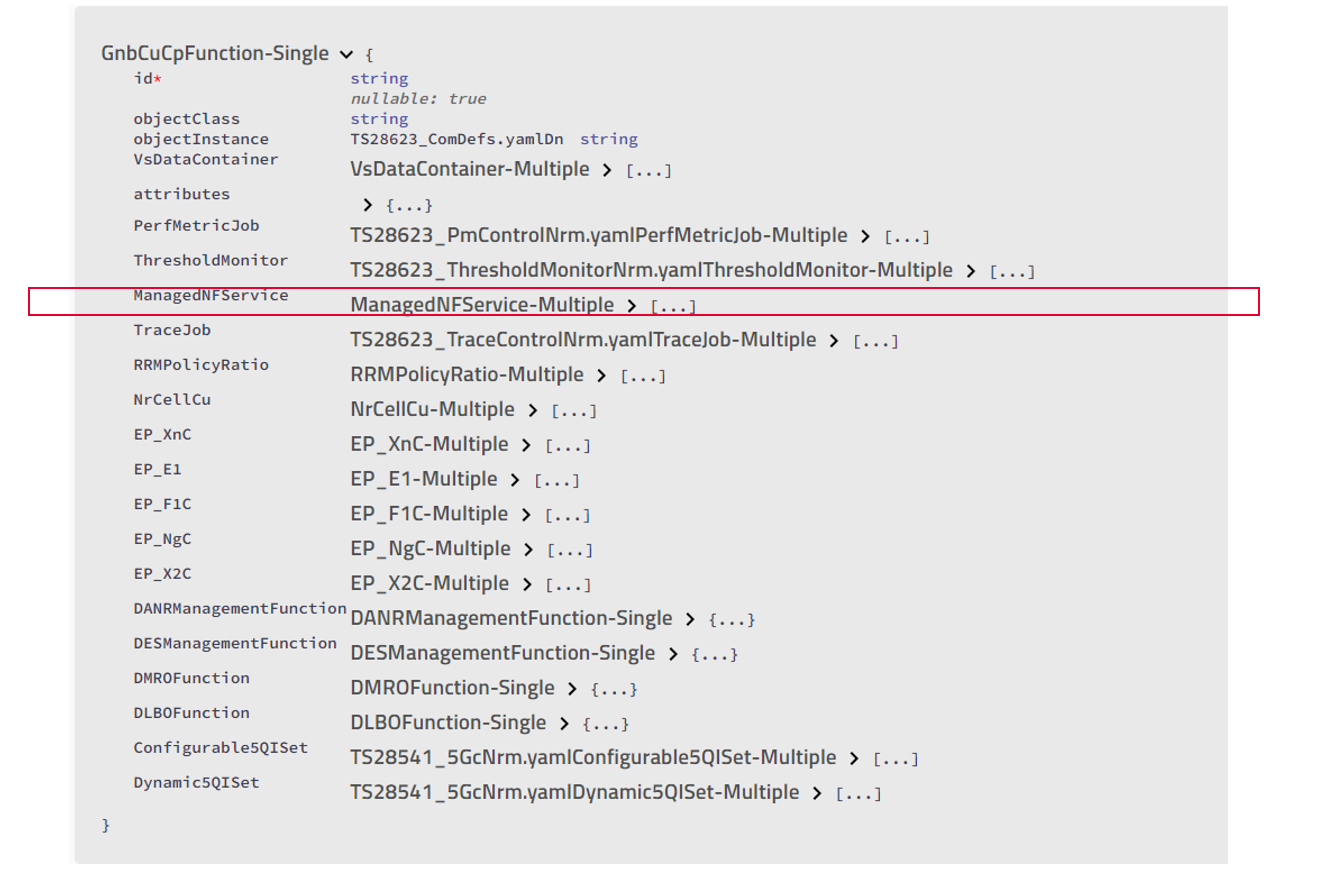
## 3.3 Issues

**Issue#1:** From specification view, TS 28.622 defines the generic model which is agnostic to generation and domains, however, the ManagedNFService IOC is 5GC specific.

**Issue#2**: ManagedNFService is name-contained by ManagedFunction which is also inherited by NG-RAN ManagedFunction (e.g. GNBCUCPFunction), it gives impression that GNBCUCPFunction also name contained ManagedFunctionService. See below:



Following is one example in stage3:



Following are the detailed proposals to address above issues:

**Proposal#1:** Move NRM Fragment definition for ManagedNFService from generic information model definitions in TS 28.622/623 to 5GC NRM information model definitions in TS 28.541.

**Proposal#2:** Add statement in TS 28.541 to describe the name containment relationship (ManagedFunction name containing ManagedNFService) only applied for 5GC NRM.

# 4 Detailed proposal

Following are the detailed proposals to address above issues:

**Proposal#1:** Move NRM Fragment definition for ManagedNFService from generic information model definitions in TS 28.622/623 to 5GC NRM information model definitions in TS 28.541.

**Proposal#2:** Add statement in TS 28.541 to describe the name containment relationship (ManagedFunction name containing ManagedNFService) only applied for 5GC NRM..