GENERIC SUBNETWORK ADAPTER FRAMEWORK

3GPP specification defined network models for Radio Access Network(RAN) and Transport Network(CORE) in a Mobile Network System. The specification also defined how a Network Element is connected to other Network Element of same type or different type. A typical Operations Support System (OSS) maintains a SubNetwork view of managed Network, and provides an aggregated view of the network elements for providing maintenance facilities. This SubNetwork view is usually a hieratical structure of the network elements (also called Managed Objects) in a Operations Support System. To make SubNetwork data persistent, OSS maintains a SubNetwork database along with the real configuration database. This SubNetwork data must be consistent all time for any network operation to take place appropriately, for example for a hand-over to take in UMTS network, the relationship between the UtranCells involved in the hand-over must be consistent. To provide access to this SubNetwork database, OSS usually defines a SubNetwork Adapter, which is also responsible to make database consistent. The basic functionality of the SubNetwork adapter resembles for different types of SubNetwork. For example, the algorithm to check consistency of RAN and CORE networks are almost similar with minor differences. 3GPP does not define the structure of the SubNetwork model, therefore, the design of SubNetwork Adapter varies from one OSS to other one, meaning there is no well defined framework to design SubNetwork adapter today. The objective of this paper is to write a Generic Framework for designing a SubNetwork adapter. To design a new SubNetwork adapter, designers will extend this framework to include OSS specific functionalities.