E2E Network Slicing – DCAE impacts in Jakarta release

Jan 4, 2022

DCAE – Impacts for Network Slicing

- **Capacity based NSI/NSSI Selection**

  - A **new API** in Slice Analysis MS will be exposed to provide the details requested by OOF

  - This API calculates the available resources in RAN NFs, converts and sends these details in the form of slice configuration to OOF

  - Available resources are calculated from the PM data from RAN NFs. This requires the storage of PM data into DES.

- **Slice Analysis MS <-> CPS Integration**

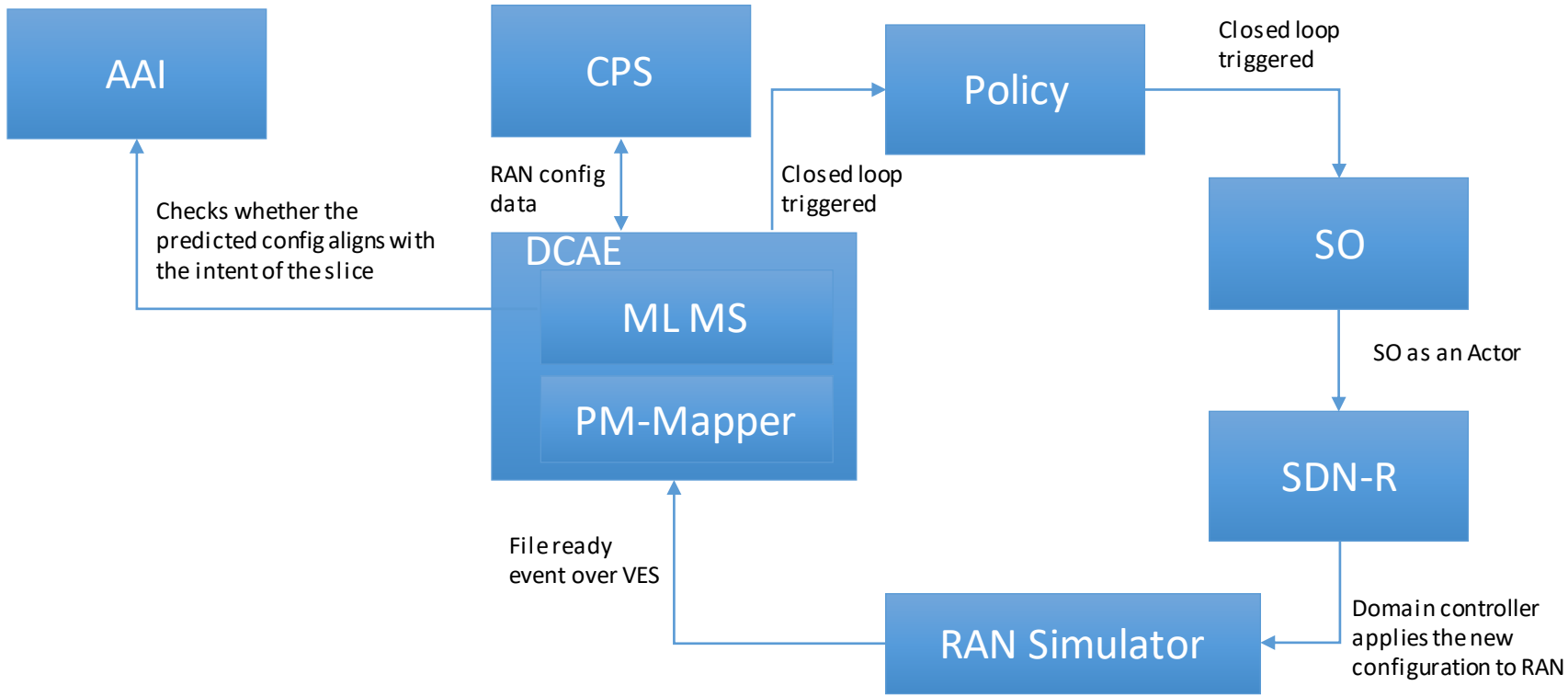
  - Minor changes/bug fixes in Slice Analysis MS are expected as part of CPS integration

DCAE – Impacts for Network Slicing (Continued)

- **IBN Based Closed Loop**
  - A new ML based microservice written in Python will be onboarded to DCAE
  - This MS learns from the historical data (PDU Sessions in this case) and suggests the configuration to the cells for a particular slice based on its prediction
  - This requires the PM data (PDU Sessions) from RAN NFs to get stored in DES and this will be used as a training data set for the MS
  - Predicted configuration should help to configure more or less maxNumberOfConns in the cell based on "*Number of PDU Sessions requested to setup, Number of PDU Sessions successfully setup & Number of PDU Sessions failed to setup*"
  - Predicted configurations should be in an alignment with the intent for that particular slice

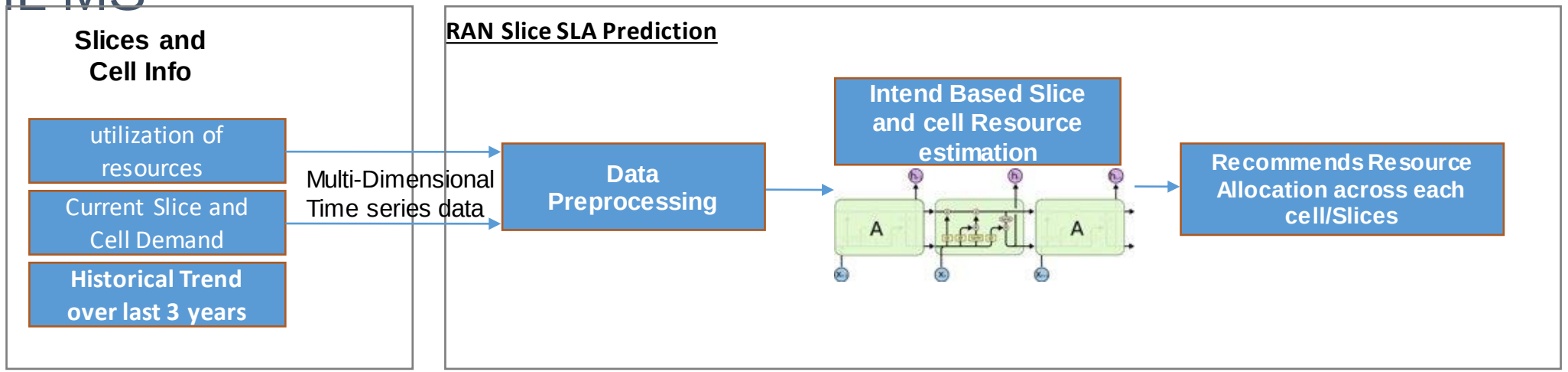
DCAE – Impacts for Network Slicing (Continued)

- **IBN Based Closed Loop**



DCAE – Impacts for Network Slicing (Continued)

- ML MS



Data Requirements to build the Intend based slice Intelligence

- Current utilization of resources across each cell and slices
- Current demand of resources across each cell and slices
- Historical information of the systems past trends per slices over last 3 years (at least).
- **The accuracy of the intend based predication depends on the correctness of the slices Historical information depicting over specific market segment. over its usage like**
  - **Periodic usage information.**
  - **Number of users connecting or disconnecting**
  - **Resource utilization and demand requirements**

DCAE – Impacts for Network Slicing (Continued)

- NFRs

https://wiki.onap.org/display/DW/R10+Global+Requirements+Contribution+by+Network+slicing+use+case

- EPIC:

https://jira.onap.org/browse/DCAEGEN2-3021

DCAE – Impacts for Network Slicing (Continued)

- **IBN based Closed loop in TN Slicing**
  - To be covered by Henry

Thank You!