Information Model of Control-Plane and User-Plane separation BNG

draft-wcg-i2rs-cu-separation-infor-model-02

Authors: Rong Gu, Victor Lopez,

Michael Wang, Shujun Hu

Why we need the CU separation BNG information model?

- Operators require that BNG device can be virtualized partially, thus some functions can be offload to centralized processor (in DC):
  - Improves Resource Utilization; Simplified Management
- Separate the Control Plane (in DC) and Forwarding Plane
  - Centralized and Virtualized Control Plane can configure and monitor distributed Forwarding Plane when user accesses - due to Bursty User interactions
  - Multiple vendors in the BNG access devices – so need standardize management.
- Therefore, we proposed the information model
  - to present which attributes or information will be transmitted between the CP and UPs.

Why Now?

- Operator Implementation
  - China Mobile have done the trial from last year in seven provinces for home broadband service.
  - Have deployed the BNG with CU separation in Novonet (the whole network based on SDN and NFV).
- Operators in BBF have agreed that is a good structure
- NMDA architecture has been completed
  - A large number of users access at any time. It requires a dynamic control plane to handle it. Therefore, it needs a standardized control interfaces between the Control Plane and User Plane

IETF Journey in I2RS

- IETF98 Chicago
  - Proposed the CU separation BNG information model in IETF i2RS WG
- IETF99 Prague
  - Review + Revise the information model based on comments

- IETF100 Singapore
  - Proposed the CU separation Protocol requirements in IETF rtgwg WG
  - I2RS WG + AD decide it will not get sufficient review in I2RS – so hands off to RTGWG

The relationship with CUSP

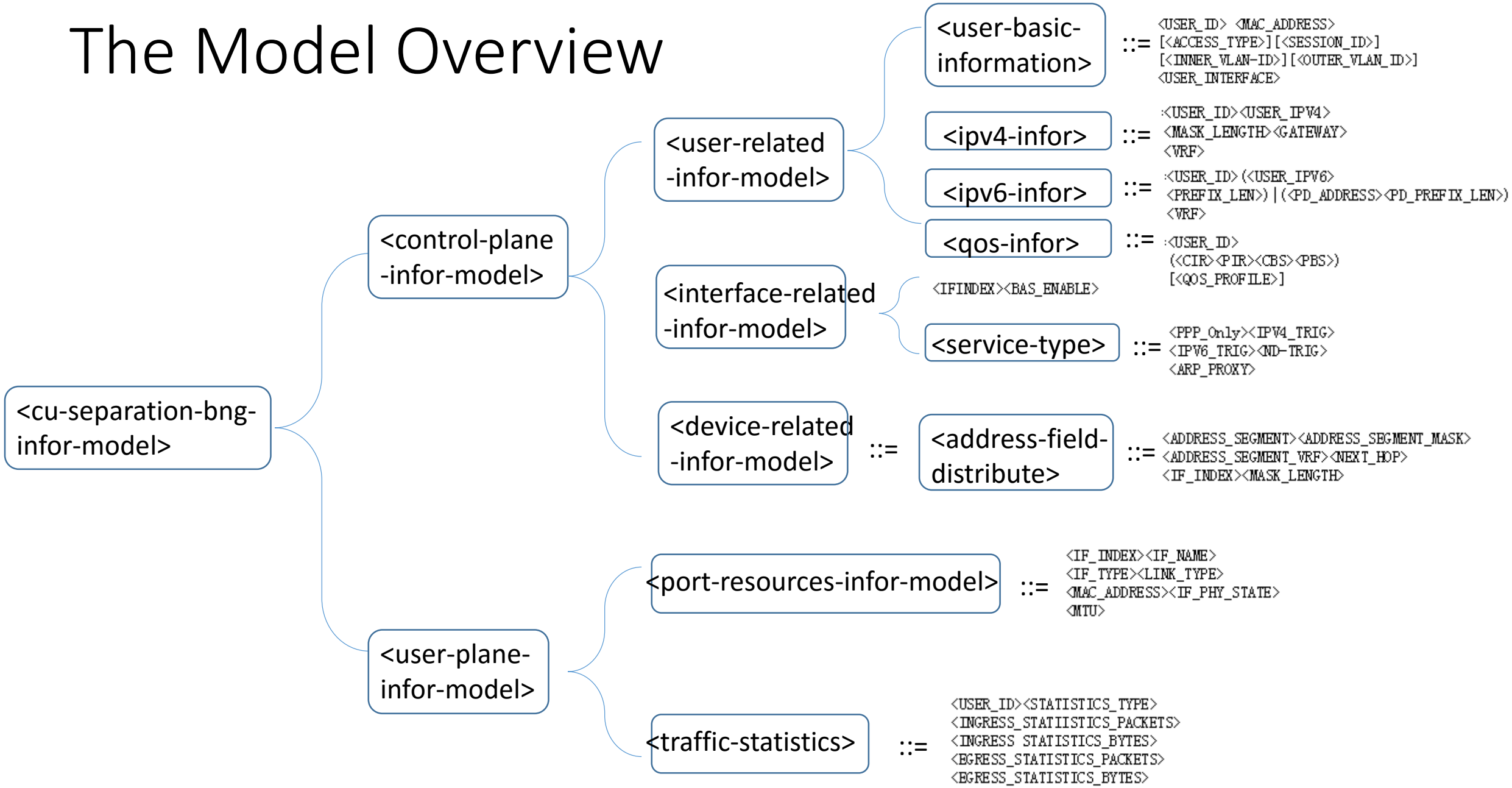
- Information model:
  - It presents that the Rules/Entries which are generated by the centralized Control-Plane.
  - The information model can be used as a compendium for the interface between Control Plane and User Planes of CU separation BNG.
  - base on the information model to generate corresponding data model or TLVs

  .
- CU Separation BNG Protocol:
  - Netconf/Restconf not efficient; Investigating CBOR and alternative
  - One Alternative: Design a standard protocol for the control interface to carry the attributes which are described in the information model.

Next Steps—we need your helps

- We will show it in next ietf HACKATHON
  - Welcome to join us!
- We need solicit more comments
  - Please read the document and give us your feedback!

The Model Overview



MANY THANKS