A YANG Data Model for Network Inventory Location

draft-ietf-ivy-network-inventory-location

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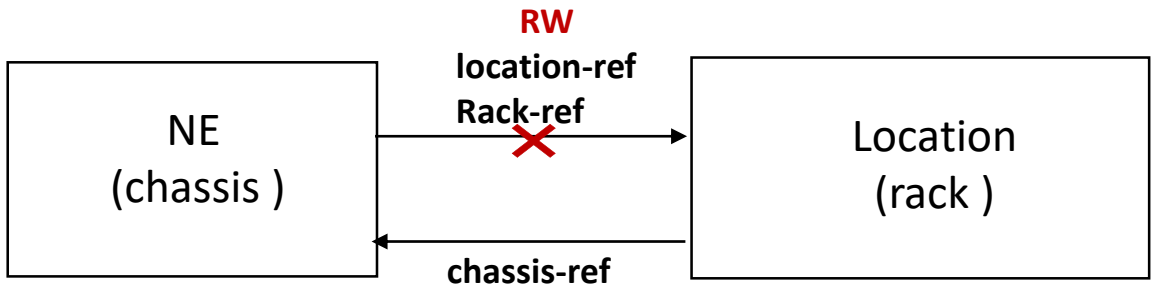
Summary of Changes: -05 (issues closed)

- Except for two open issues from Brad's review (#23 and #15), all major issues have been resolved in -05

-04 Problem Identified	-05 Solution
Unclear data authority	Controller as single source of truth
Bidirectional reference risk	Unidirectional references only (Location → NE/component)
Non-Rack Deployment Gap by removing NE→location references	Added “contained-chassis” in “location” list to support non-rack deployments (APs, pole-mounted equipment)
Operational guidance absent	Section 6: explicit Controller-Inventory interface scope
Concrete examples missing	Added Appendix A with two JSON examples (APs, distributed NEs)



-05 YANG Model Updates

-04

```
module: ietf-ni-location
  +--rw locations
    +--rw location* [id]
    |  +--rw id                yang:uri
    |  +--rw name?             string
    |  +--rw description?      string
    |  +--rw alias?            string
    |  +--rw location-type?    identityref
    |  +--rw parent?           -> ../../location/id
    |  +--rw child*            -> ../../location/id
    |  +--rw physical-address
    |  |    ...
    |  +--rw geo-location
    |       ...
    +--rw racks
      +--rw rack* [id]
          ...
        +--rw contained-chassis* [relative-position]
        |    ...
~~augment /nwi:network-elements/nwi:network-element:~~
~~  +--rw locations~~
~~    +--rw location*   -> /locations/location/id~~
~~    +--rw rack?       -> /locations/racks/rack/id~~
```

-05

```
augment /nwi:network-inventory:
  +--ro locations   // RO
    +--ro location* [id]
    |  +--ro id                string
    |  +--ro uuid?             yang:uuid
    |  +--ro name?             string
    |  +--ro alias?            string
    |  +--ro description?      string
    |  +--ro type?             string
    |  +--ro parent?           -> ../../location/id
    |  +--ro timestamp?        yang:date-and-time
    |  +--ro valid-until?      yang:date-and-time
    |  +--ro physical-address
    |  |    ...
    |  +--ro geo-location
    |  |    ...
    |  +--ro contained-chassis* [chassis-id]      // New
    |       ...
    +--ro racks
      +--ro rack* [id]
          ...
        +--ro contained-chassis* [relative-position]
        |    ...
```

- Discussion Points:

1. Read-Only architecture

#23 Finalize the Discussion about RO vs. RW Approach

1.Option 1 –RW (-04), Support Inventory Feeding Model, Controller as consumer

- External system (typically the Inventory OSS) can ‘pushes’ the location and rack definitions into the controller

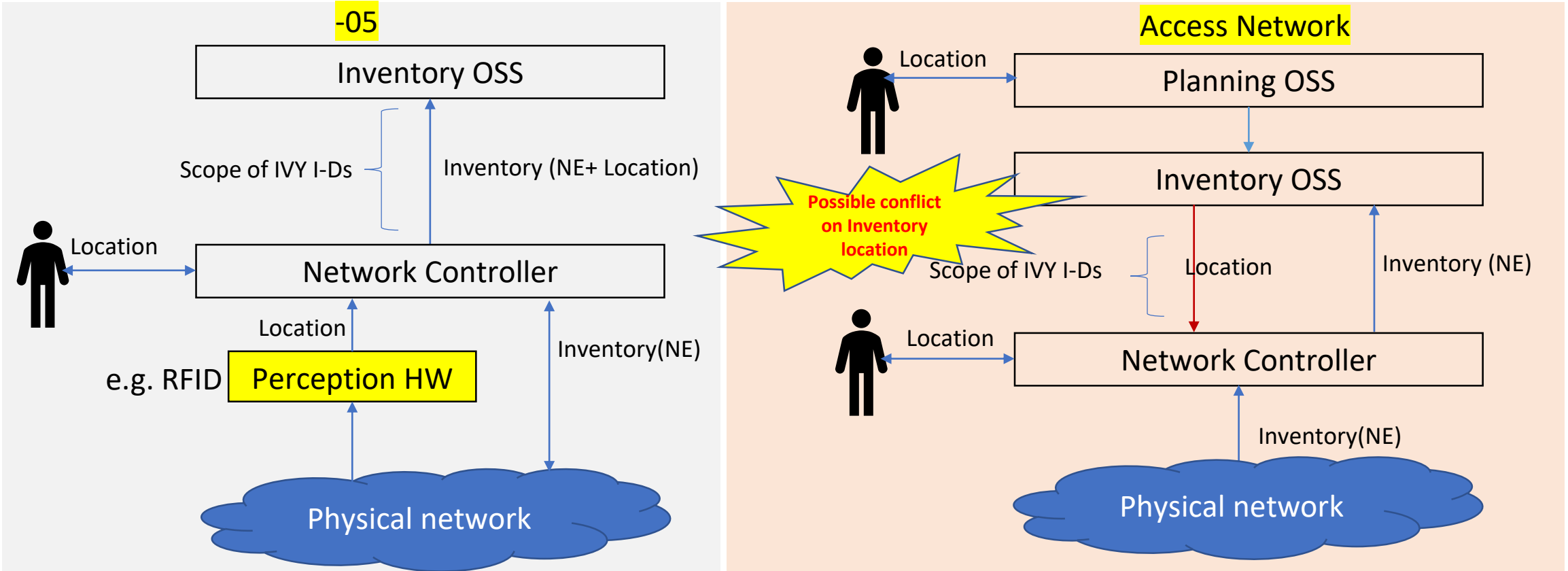
- Location data serves as contextual enrichment for controller's operational view of discovered network elements

2. Option 2 –RO (-05), Controller-Authority Model, Controller as data source

- Location data is implementation-specific (e.g., through a GUI) and outside the scope of standardization
- YANG model reports location data as read-only operational state

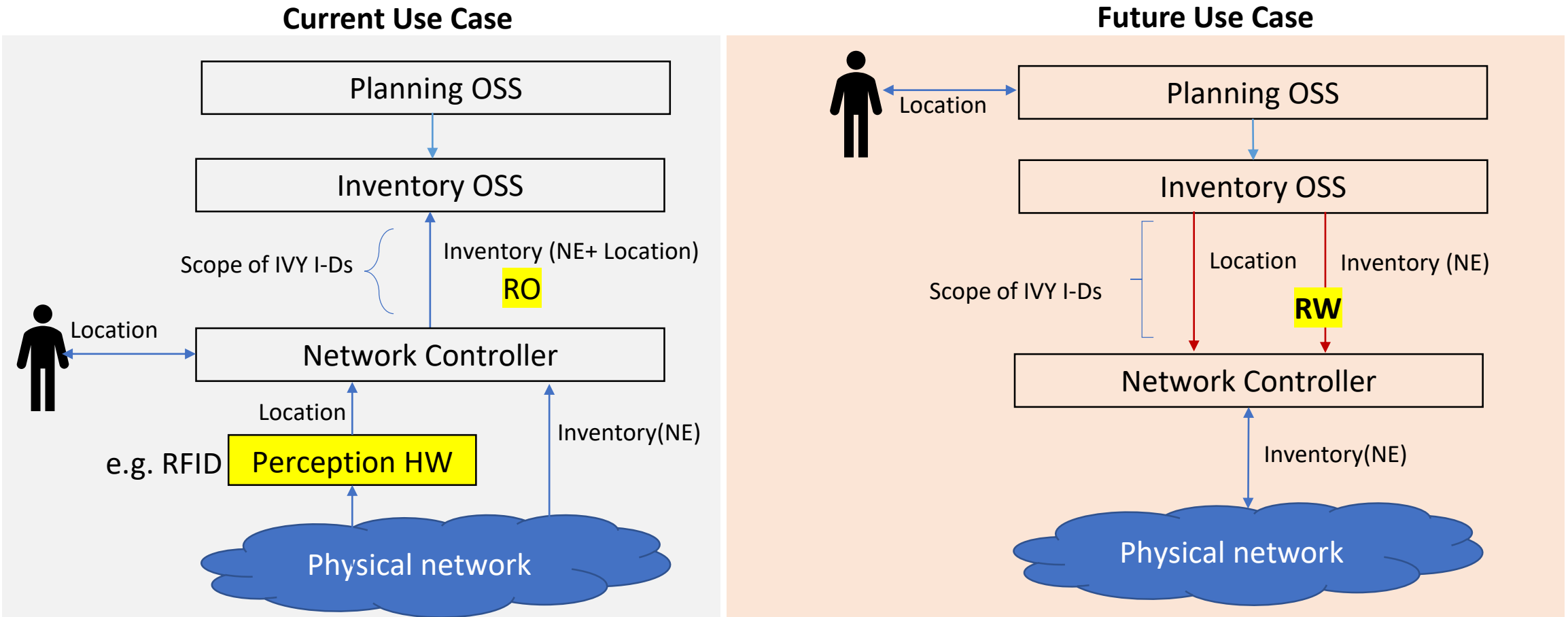
Issue from Brad: Access networks are planning-driven, which follows -04 RW Inventory feeding model

Question for WG: Should we standardize both modes, or mandate RO only and defer Access planning integration for future modules



Two phase Definition for Location

- Summary of **IVY Monday side meeting**: Identifies **two distinct use cases** for the location model: 1) **actual location** data for reporting 2) focus on **intent-based** install and deployment
- **Recommendation:** Align the two use cases of “Location” with the base network inventory



#15 Rack attrs/class/access control Concerns

- https://github.com/ietf-ivy-wg/network-inventory-location/issues/15
- Brad: Location → Operational work flow action (Rack classification → Security procedure → Key location → Truck roll authorization)
- Model: Location → Informational reference only (rack dimensions)
- **Question for Brad & WG**: Is generic rack-classification sufficient for this issue?

Next Step

- Finalize the discussion on #23 and #15
- WGLC before IETF 127