**For arch 1a, TR section 8 defines four bullets for functional support of Adapt:**

1. Identification of the UE-bearer for the PDU,
2. Routing across the wireless backhaul topology,
3. QoS-enforcement by the scheduler on DL and UL on the wireless backhaul link,
4. Mapping of UE user-plane PDUs to backhaul RLC channels,

**These are the identifier options for each of these bullets:**

1. Identification of UE-bearer for the PDU, based on (options):

* UE-bearer Id
* UE-id + UE-specific bearer Id

1. Routing across the wireless backhaul topology, based on (options):
2. UE-bearer Id
3. UE-id
4. IAB-node Id/IAB-donor Id
5. QoS enforcement by scheduler, based on (options):
6. UE-bearer Id
7. UE-id + UE-specific bearer-Id
8. Aggregate QoS-Id
9. Mapping of UE UP PDUs to backhaul RLC channels (options):
10. Adapt above MAC: They could use all the same RLC channel
11. Adapt above RLC: Mapping uses the same Id as QoS enforcement

**This leads to the following set of identifiers to be considered for Adapt:**

* UE-bearer Id
* UE-Id + UE-specific bearer Id
* IAB-node Id/IAB-donor Id
* Aggregate QoS-Id

**Further assumptions:**

* Adapt is generated on access IAB-node for northbound PDUs and on IAB-donor DU for southbound PDUs.
* Adapt is not modified along the path across wireless backhaul.

**We need to consider:**

* Generation of Adapt Id at initial node where Adapt is generated
* Processing of Adapt Id at final node where Adapt is terminated
* Processing of Adapt Id at intermediate node

**Generation of Adapt Id at initial node where Adapt is generated**:

* UE-bearer Id:
  + At access-IAB-node, deterministically mapped from F1-U GTP-U TEID, which is configured on UE-bearer’s DU based on native F1-AP procedures.
  + At IAB-donor DU, deterministically mapped from F1-U GTP-U TEID of arriving fronthaul PDU.
* UE-Id:
  + At access-IAB-node, mapped from C-RNTI; mapping needs to be configured when UE-bearer is established.
  + At IAB-donor DU, mapped from F1-U GTP-U TEID; mapping needs to be configured when UE-bearer is established.
* UE-specific bearer-Id:
  + At access-IAB-node, deterministically mapped from LCID of arriving access PDU.
  + At IAB-donor DU, mapped from F1-U GTP-U TEID; mapping needs to be configured when UE-bearer is established.
* IAB-node/donor-DU Id:
  + At access-IAB-node, based on value configured on node; could be deterministically mapped from existing Id, e.g. CGI or PCI, or needs to be configurated when IAB-node attaches to topology.
  + At IAB-donor DU, based on value configured on node; could be deterministically mapped from existing Id, e.g. CGI or PCI, or needs to be configured when IAB-donor is integrated.
* Aggregate QoS-Id:
  + At access-IAB-node, mapped from QoS class identifier configured for access bearer. Mapping may be semi-static, e.g. configured when IAB-node attaches to topology, or bearer-specific, e.g. configured when UE-bearer is established.
  + At IAB-donor DU, mapped from DSCP value or F1-U GTP-U TEID of arriving fronthaul PDU. Mapping may be semi-static, e.g. configured when IAB-node attaches to topology, or bearer-specific, e.g. configured when UE-bearer is established.

**Processing of Adapt Id at final node where Adapt is terminated**

* UE-bearer Id:
  + At access-IAB-node, deterministically mapped to F1-U GTP-U TEID, which is configured on UE-bearer’s DU based on native F1-AP procedures.
  + At IAB-donor DU, deterministically mapped to F1-U GTP-U TEID of PDU forwarded on fronthaul.
* UE-Id:
  + At access-IAB-node, mapped to C-RNTI; mapping needs to be configured when UE-bearer is established.
  + At IAB-donor DU, mapped from F1-U GTP-U TEID; mapping need to be configured when UE-bearer is established.
* UE-specific bearer-Id:
  + At access-IAB-node, deterministically mapped from LCID of arriving access PDU.
  + At IAB-donor DU, mapped to F1-U GTP-U TEID; mapping needs to be configured when UE-bearer is established.
* IAB-node/donor-DU Id:
  + At access-IAB-node, PDU is terminated when IAB-node-Id value on Adapt matches that configured for access-IAB-node.
  + Ad IAB-donor DU, PDU is forwarded to fronthaul when IAB-donor Id value on Adapt matches that configured for IAB-donor DU.
* Aggregate QoS-Id:
  + At access-IAB-node, not used.
  + At IAB-donor DU, it may be mapped to DSCP value of PDU forwarded on fronthaul.

**Processing of Adapt Id at intermediate nodes**

1. Identification of UE-bearer for the PDU: None
2. Routing across the wireless backhaul topology: IAB-node matches routing Id on Adapt to routing table entry and derives backhaul link where PDU has to be forwarded

* If done via UE-bearer Id, routing table needs to be reconfigured when UE-bearer is established or released at access IAB-node.
* If done via UE-Id, routing table needs to be reconfigured when UE connects to or leaves access IAB-node.
* If done via IAB-node/IAB-donor-Id, routing table needs to be reconfigured when topology changes.

1. QoS enforcement by scheduler: Scheduler matches QoS-Id to entry in scheduling policy table, selects RLC bearer and applies corresponding scheduling policy when forwarding PDU.

* If done via UE-bearer Id, policy table needs to be reconfigured when UE-bearer is established or released at access IAB-node.
* If done via UE-Id + UE-specific bearer Id, policy table needs to be reconfigured when UE-bearer is established or released at access IAB-node.
* If done via IAB-node/IAB-donor-Id, policy table needs to be updated when topology changes.