

BGP Update for 5G Edge Computing Service related Metadata

draft-dunbar-idr-5g-edge-compute-app-meta-data-03

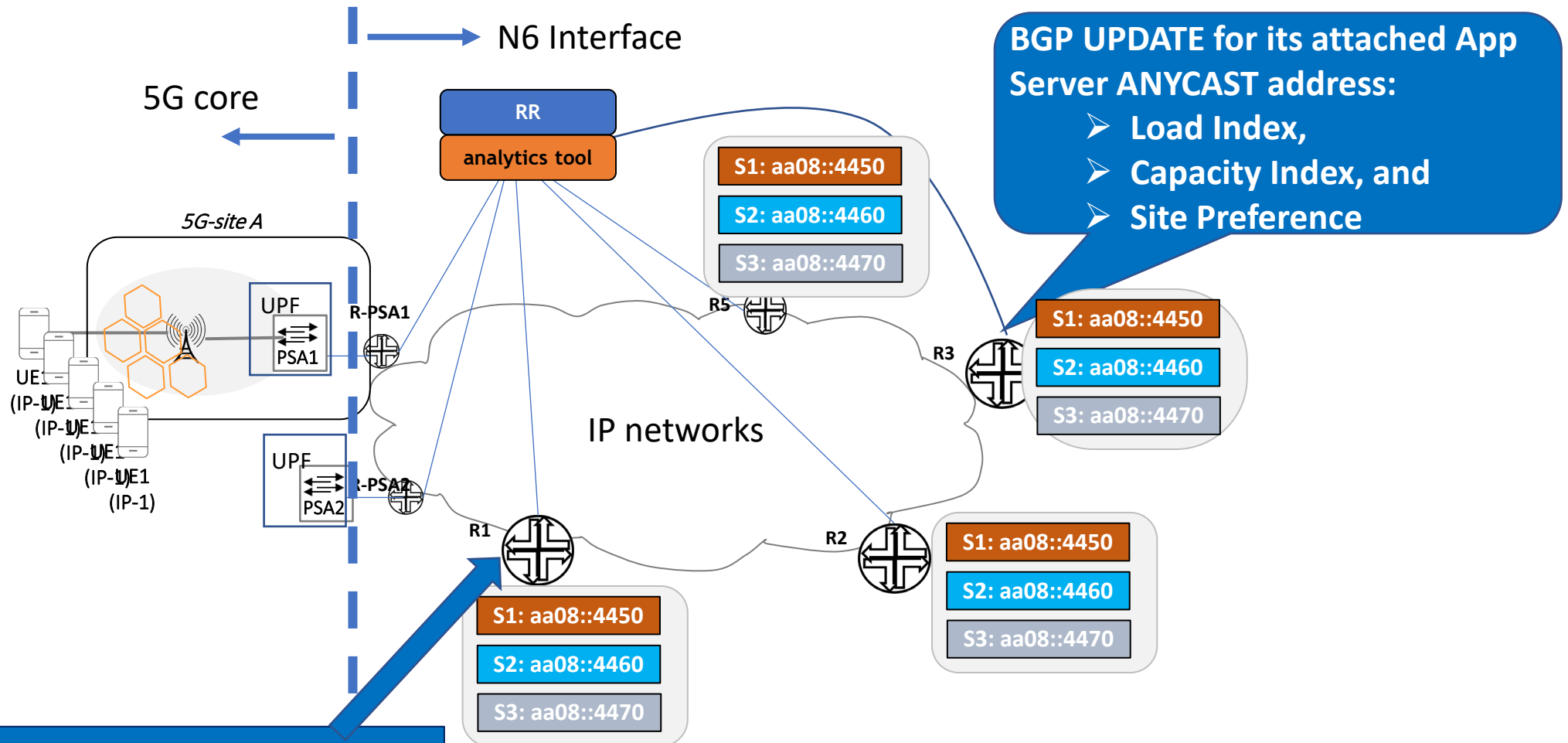
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Nov 2021

Recap: BGP Update to advertise the App related Site-Cost metrics



BGP UPDATE for its attached App Server ANYCAST address:

- Load Index,
- Capacity Index, and
- Site Preference

Network Assumption:
All the servers are directly attached to the egress routers,
The servers and the egress routers are co-located.
May have a layer of Virtual Switch or ToR between the egress routers and the servers

Major Change: App related Site Cost carried by Tunnel-Encap

Raw Load Measurement sub-TLV:

0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
Type (TBD3)											Length										
Measurement Period																					
total number of packets to the AppServer																					
total number of packets from the AppServer																					
total number of bytes to the AppServer																					
total number of bytes from the AppServer																					

Figure 5: Raw Load Measurement Sub-TLV

Load Measurement sub-TLV

0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
Type (TBD2)											Length										
Measurement Period																					
Aggregated Load Index to reach the App Server																					

Figure 4: Aggregated Load Index Sub-TLV

The Capacity Index sub-TLV has the following format:

0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
Type (TBD4)											Length										
Capacity Index																					

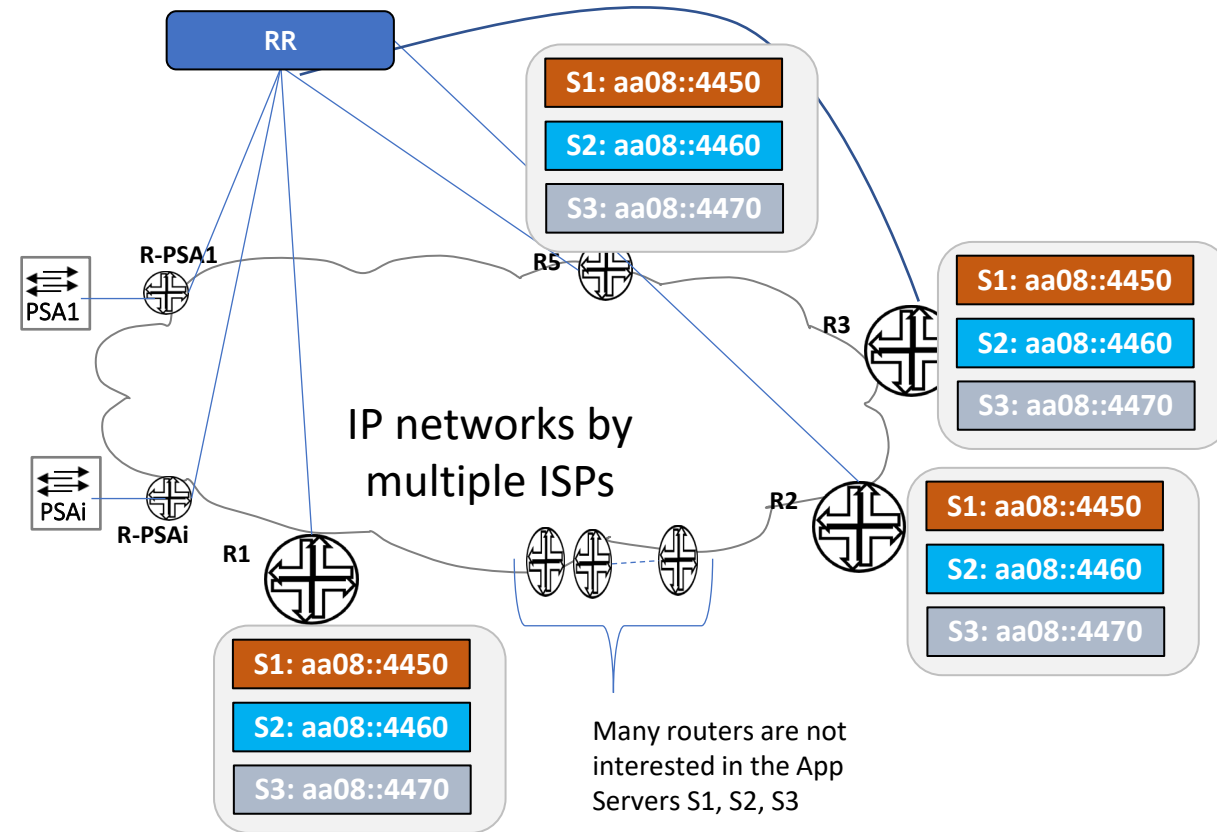
The Preference Index sub-TLV has the following format:

0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
Type (TBD5)											Length										
Preference Index																					

AppMetaData Propagation Scope

- BGP RT constrained distribution (RFC4684)
 - there are much more App Servers than the number of routers
- Create a AppServer-Bound-Group
 - Based on the Edge Computing service ACL configured to each Ingress router

AppServer ID	Interested Routers	Time To Live	Other attributes
S1: aa08::4450	R-PSA1, R-PSA2		
S2: aa08::4460	R-PSA1		



Next Step

- Solicit more comments from the WG
- Ask for WG Adoption