QoS Requirements for SWIM Traffic

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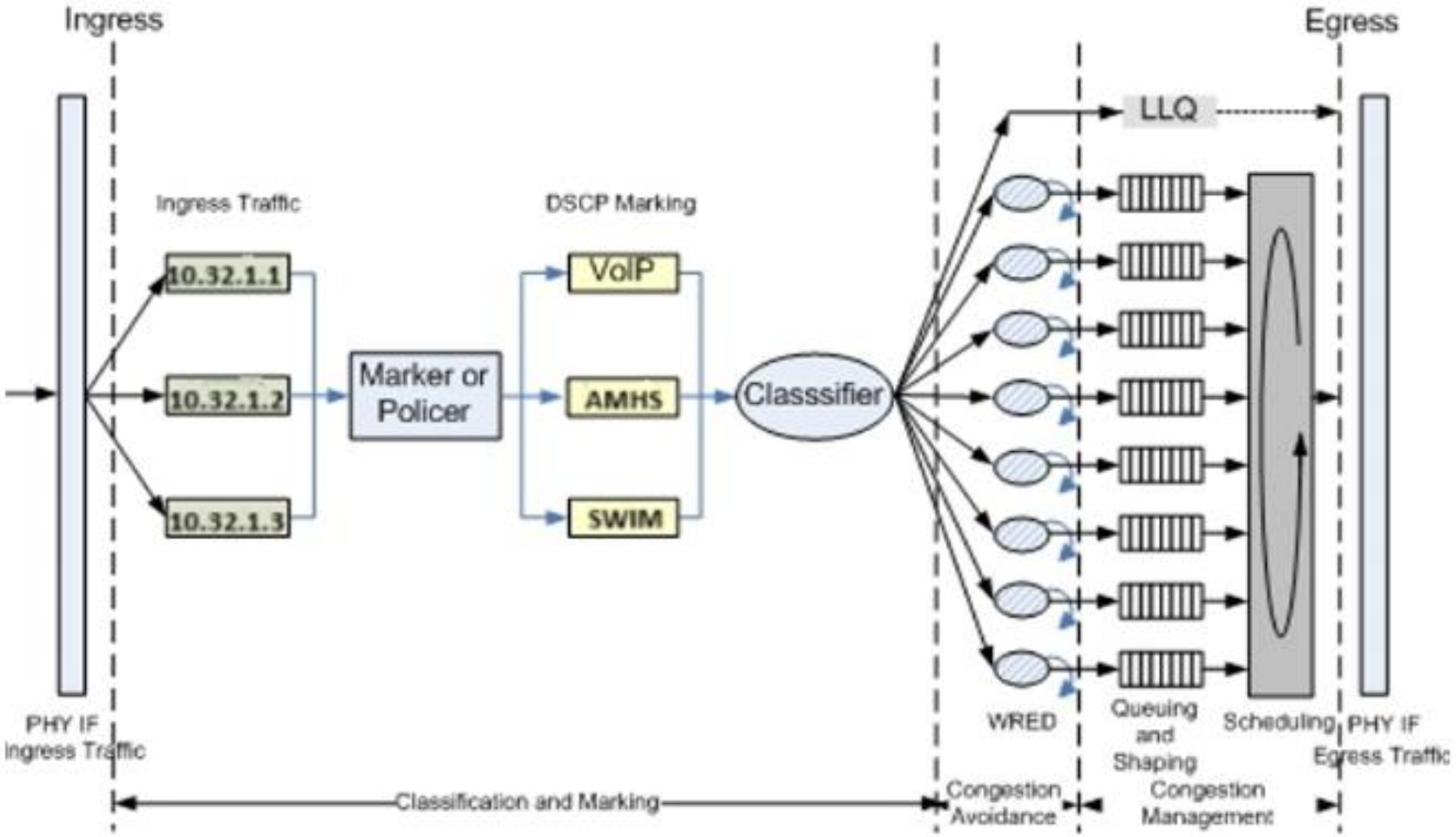
Differentiated Services Code Point (DSCP)

A need to identify the QoS requirements for SWIM traffic
to ensure an appropriate delivery

- A field in IP header used to prioritize and manage network traffic
- Classification of different types of traffic based on importance of service requirements
- CRV
  - → 6 DSCP markings
  - → 3 queues: gold, silver, and bronze

Service Class Name	DSCP Mark
Border Gateway Protocol (BGP)	CS6
Voice	EF
Voice Signaling	CS5 (preferred) EF (if CS5 is not possible)
ADS-B	CS4
AFTN, ATN	AF21
All traffic not otherwise defined	DF (CS0)

DSCP Marking

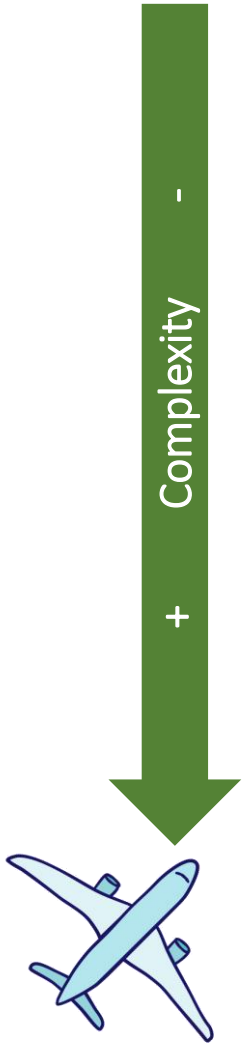


Major DSCP Markings

- Expedited Forwarding (EF)
  - → Data-intensive, e.g. VoIP, media streaming
  - → Highest preferential treatment from network devices
- Assured Forwarding (AF)
  - → Multiple levels of priority and drop precedence
- Best Effort (BE)
  - → No specific prioritization requirement
- Class Selector (CS)
  - → Backward compatible with the older IP Precedence system
  - → Multiple levels of priority

https://www.iana.org/assignments/dscp-registry/dscp-registry.xhtml

Possible Options for SWIM Traffic



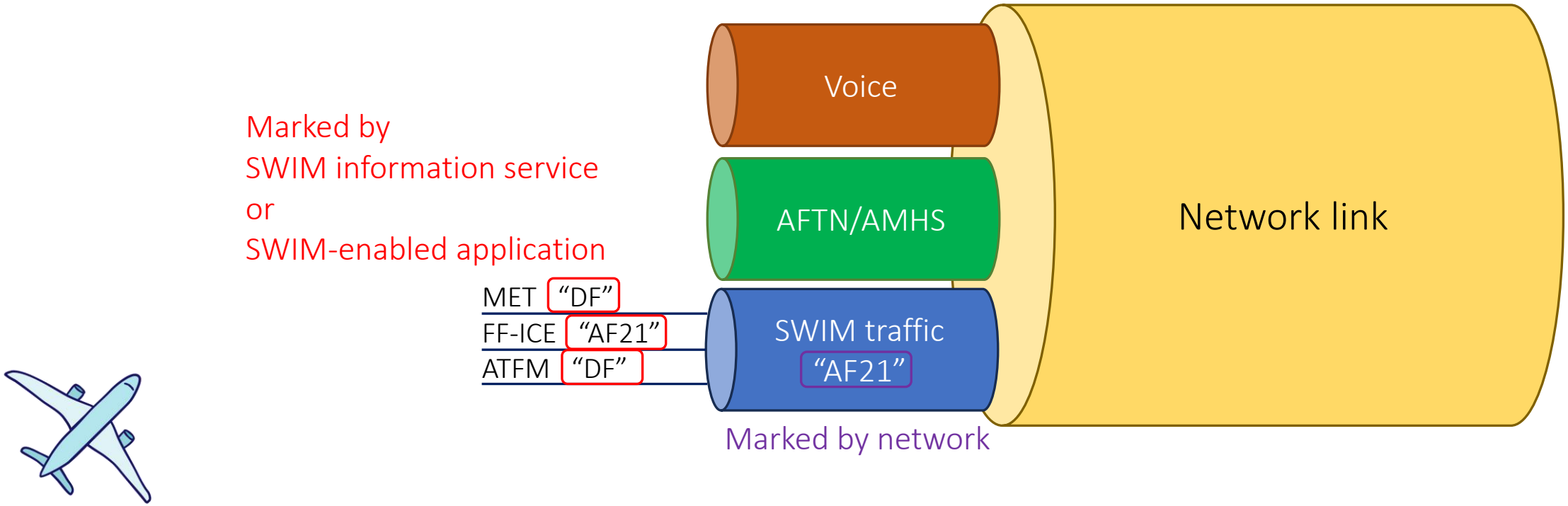
1. All SWIM traffic is put into a new QoS queue with the traffic being marked by the application.
2. All SWIM traffic is put into a new QoS queue with the traffic being marked by the network based on the IP address.

3. All SWIM traffic is segmented, i.e. MET, FF-ICE, D-NOTAM, ATFM, etc., and put into new QoS queues with the traffic being marked by the applications.
4. All SWIM traffic is segmented, i.e. MET, FF-ICE, D-NOTAM, ATFM, etc., and put into new QoS queues with the traffic being marked by the network based on the IP address.

5. All SWIM traffic is segmented, i.e. MET, FF-ICE, D-NOTAM, ATFM, etc., and put into a single new QoS queue with the traffic being marked by the applications.
6. All SWIM traffic is segmented, i.e. MET, FF-ICE, D-NOTAM, ATFM, etc., and put into a single new QoS queue with the traffic being marked by the network based on the IP address.

Priority for SWIM Traffic

- Additional priority marking to specific type of information to be sent in a single QoS queue (a single bundle of SWIM traffic)
  - → Can also be added by SWIM information services or SWIM-enabled applications
  - → Can be different from the marking used at the network level



Discussion Points

1. Should traffic generated by all SWIM information services be considered as a single bundle of traffic on CRV?
   If so, what would be the appropriate delivery priority of this single-bundle traffic?

2. For information provided through each SWIM information service, what would be an appropriate delivery priority of this information?
   APAC common SWIM information services should also contain the delivery priority information.

Thank You

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