Application-aware Networking (APN)

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APN Framework

Generation of App-Info

APP in terminals   Network edge devices   APN domain
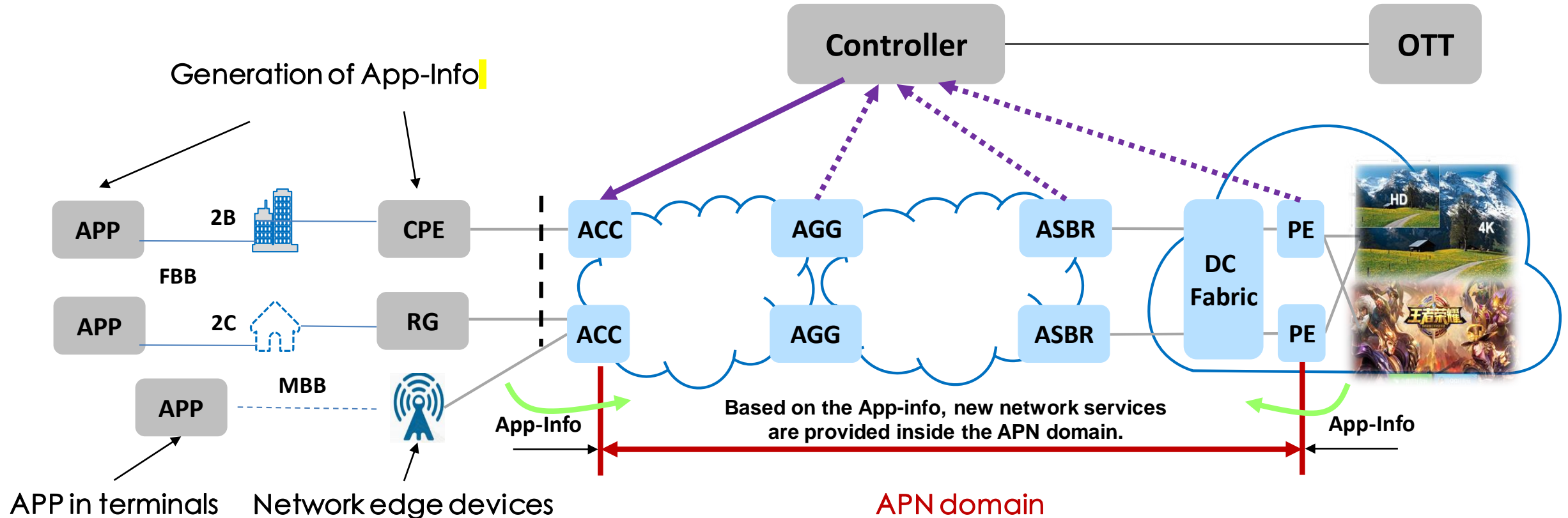
■ Application is the program installed in user terminals or hosts, such as WhatsApp and Youtube, etc.
■ App-Info is application characteristic information, including application identifier, SLA requirements, etc.
■ App-Info can be encapsulated directly by the applications, or derived at network edge devices, or via QinQ, etc.

APN Key Elements & Requirements

Open App-Info
(carried based on Agreements)

- App-aware ID
  - SLA
  - APP ID
  - User ID
  - Flow ID
  - …
- Service-para
  - Bandwidth
  - Delay
  - Jitter
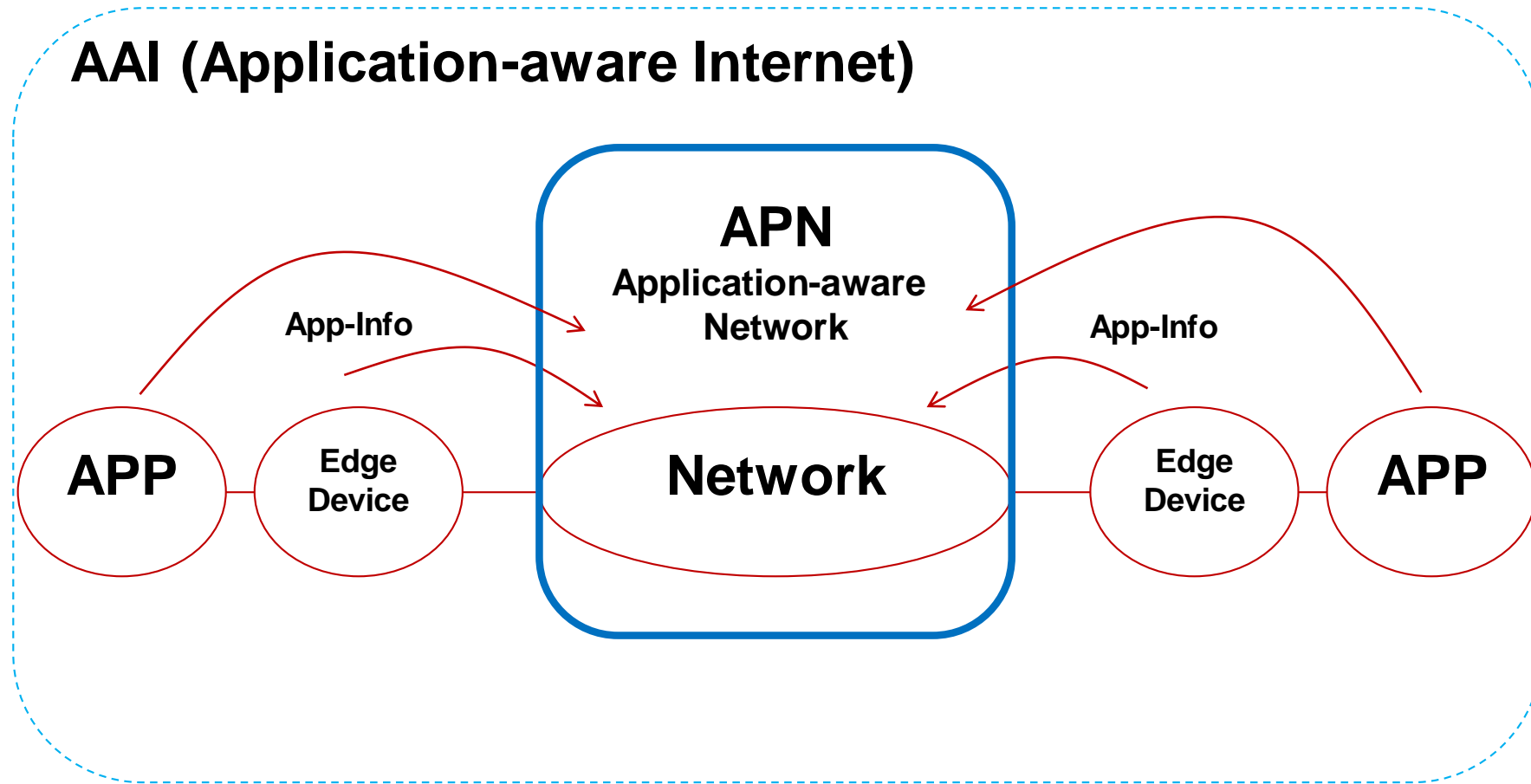 - Packet Loss
  - …

APN
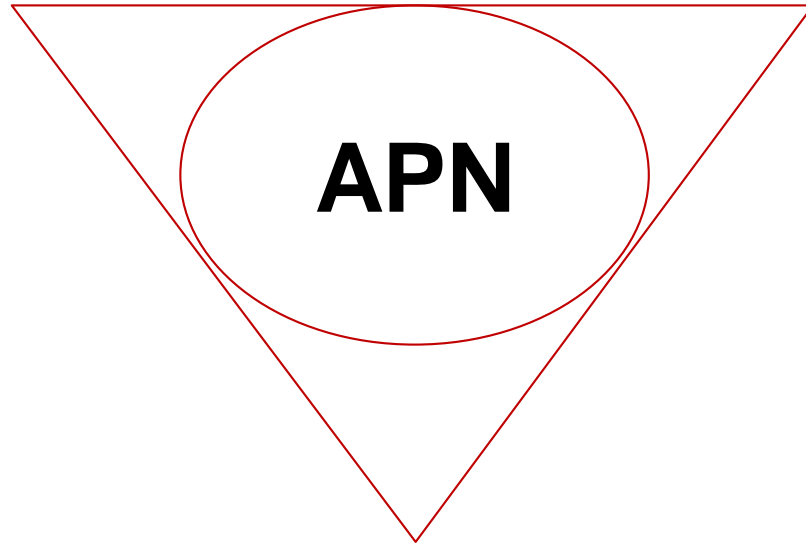
Rich Network Services
(enhanced with app awareness)

- SLA Guarantee
- Network Slicing
- Deterministic Networking
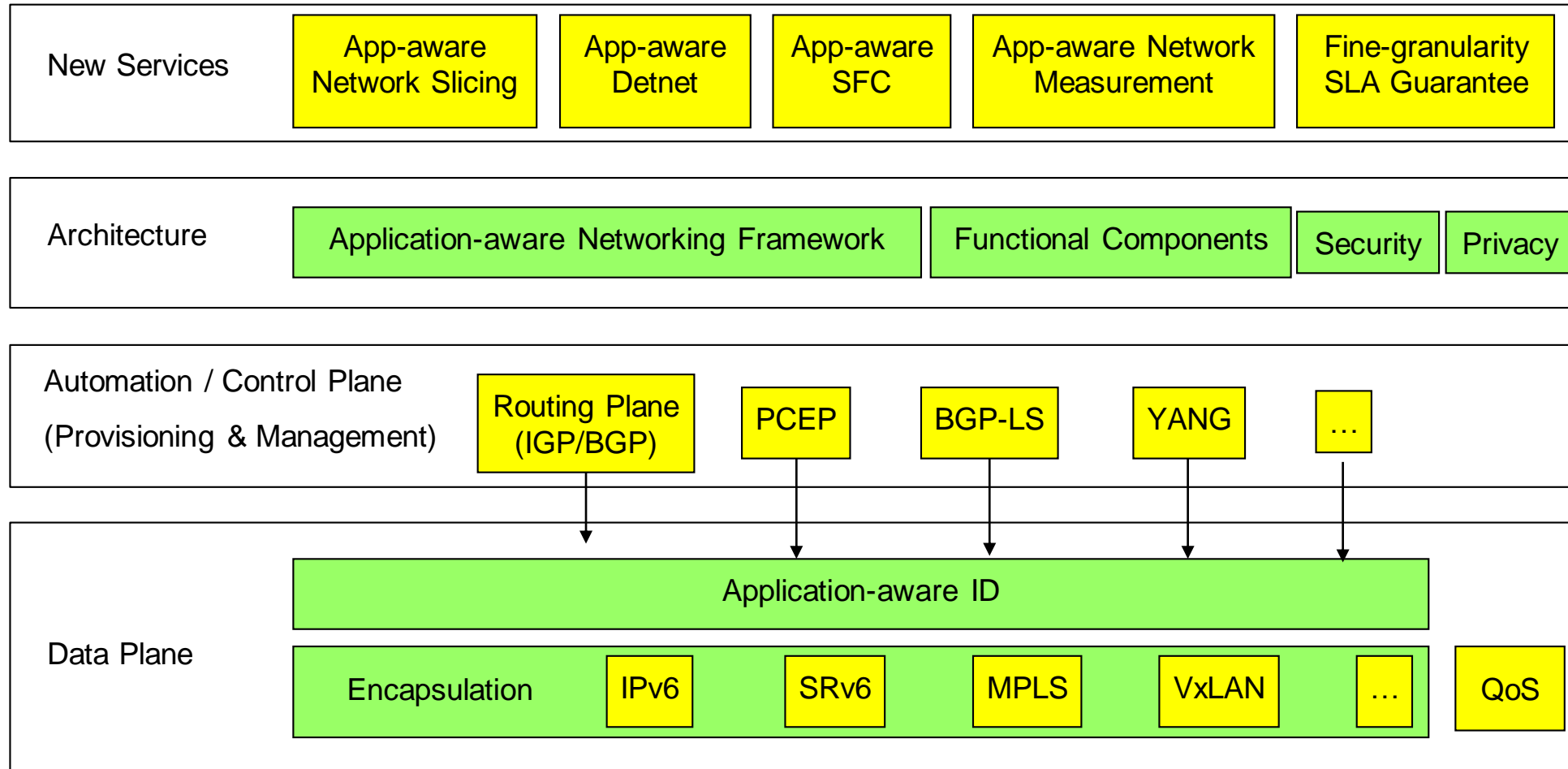- SFC

Accurate Network Measurement

- Fine granularity matching and optimization
- Comprehensive measurements

APN Scope - APN vs. AAI

App-Info is injected into the network to describe the service and behavior needed by the application.

Work Items in APN

APN Related Information

- Problem statement & Use cases:
  - https://tools.ietf.org/html/draft-li-apn-problem-statement-usecases-00
  - https://tools.ietf.org/html/draft-liu-apn-edge-usecase-00
  - https://tools.ietf.org/html/draft-zhang-apn-acceleration-usecase-00
- Framework
  - https://tools.ietf.org/html/draft-li-apn-framework-00
- Requirements on Application-awareness in Networks
  - https://tools.ietf.org/html/draft-yiakoumis-network-tokens-01
  - https://tools.ietf.org/html/draft-herbert-fast-04
  - https://tools.ietf.org/html/draft-li-6man-app-aware-ipv6-network-00
- APN Community including Information about APN6 Side meetings
  - https://github.com/APN-Community
  - https://github.com/APN-Community/IETF105-Side-Meeting-APN6
  - https://github.com/APN-Community/IETF108-Side-Meeting-APN

APN
Application-aware Networking
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Thank you for your attention!