# SP Wi-Fi Services over Residential Architectures
## (draft-gundavelli-v6ops-community-wifi-svcs)

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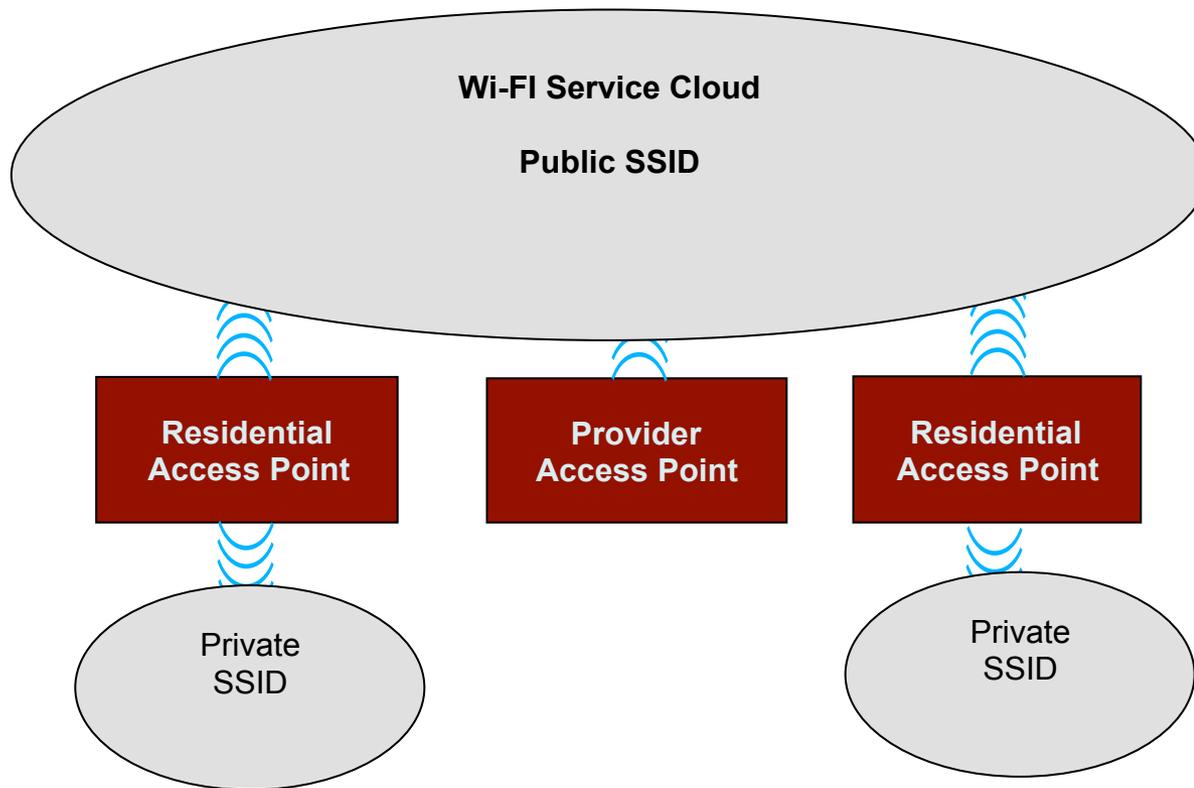
Mark Grayson (Cisco)

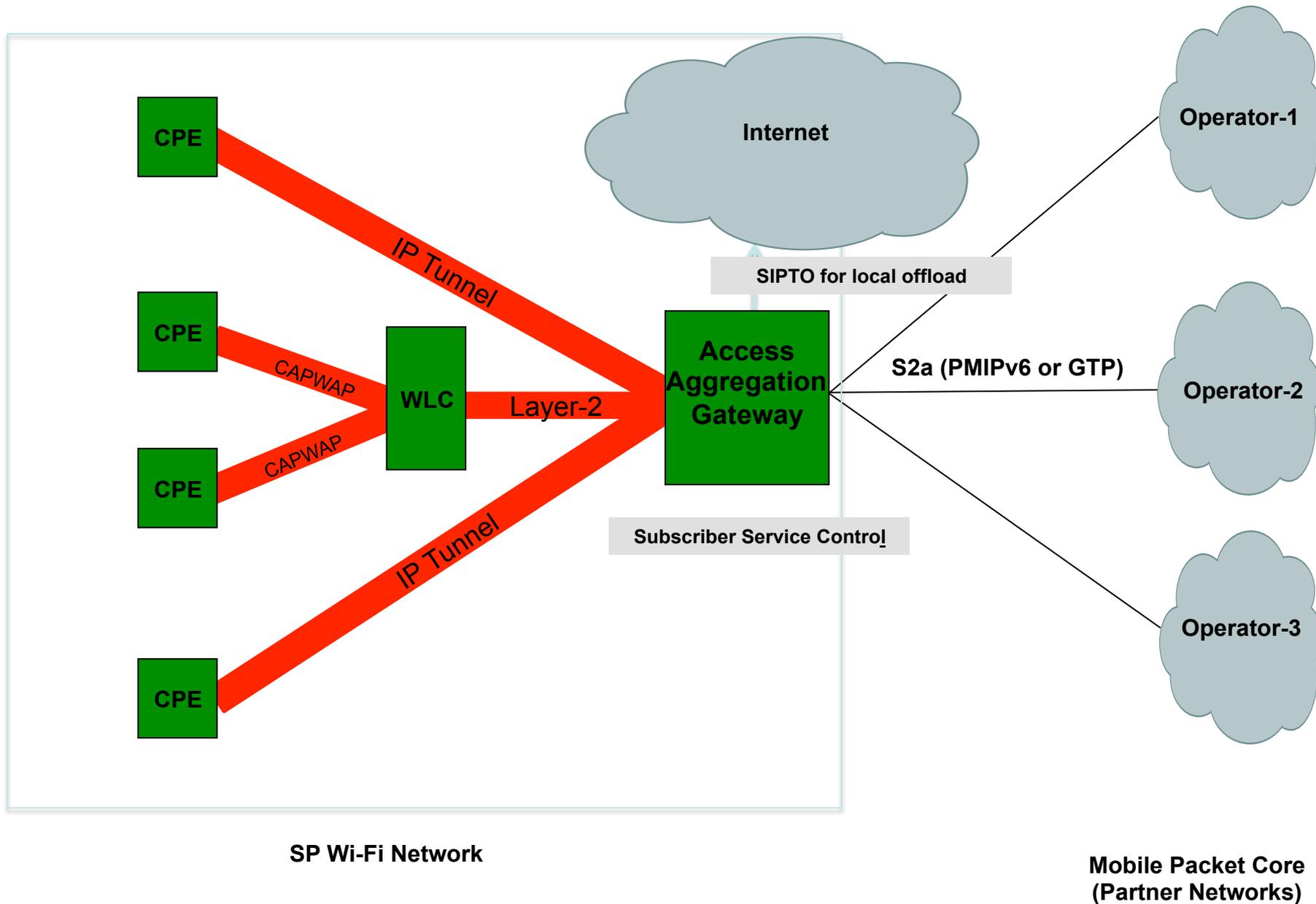Yiu Lee (Comcast)

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# Motivation

- Service Providers are deploying Wi-Fi Services over residential architectures. They are exploring protocol options for build a new service model that can meet all the service requirements.

# SP Wi-Fi Service for Retail Model



CPE

CPE

CPE

CPE

IP Tunnel

CAPWAP

WLC

CAPWAP

Layer-2

IP Tunnel

Internet

SIPTO for local offload

Access Aggregation Gateway

Subscriber Service Control

S2a (PMIPv6 or GTP)

Operator-1

Operator-2

Operator-3

**SP Wi-Fi Network**

**Mobile Packet Core (Partner Networks)**

# Key Service Requirements

- Access Architecture Models (L2 access, L3 access, tunneled L2/L3 access)
- CPE Identity and Authorization
- Subscriber Authentication
  - 802.1x/EAP Authentication
  - Web-based Authentication
  - Transparent Auto Login
- Location based Services
- Local Services Access Considerations
  - Integration with Mobile Network
  - Multiple Home Network Service Access
  - Overlapping IPv4 Address Support
- Mobile Network Integration
- IP Mobility
  - Roaming within the WLAN Access Network
  - Roaming across Cellular and WLAN Access Network
- Selective IP Traffic Offload
- Service Differentiation
  - SSID to which the user is attached
  - Home User vs., Visitor
  - Rate Limiting & QoS Control
- IPv6 Accounting
- Lawful Interception
- Charging Function
- Service Provisioning and Monitoring
- Service Discovery Considerations

# Document Scope

- ## Identify requirements for deploying SP WI-Fi Services
  - IPv6 addressing is a key to the new service model
  - some of the requirements for the service may be not IPv6 specific but may have an impact.

- ## This document should Identify protocols that can be used to support these architectures. Provide analysis for the different approaches

- ## The goal is not define protocol extensions
  - but may identify the gaps in existing tools, which can be the basis for new protocol work

# Conclusions

- This proposal got good reviews. There is lot of interest for this work.

- There are signficant amount of investments in Service Provide WiFI deployments. This work is highly relevant for ensuring those deployments leverage the existing IETF tools and make the right design choices.

- Authors request the draft be adopted as the WG document.