IPv6 in Mobile Networks: China Mobile Workshop

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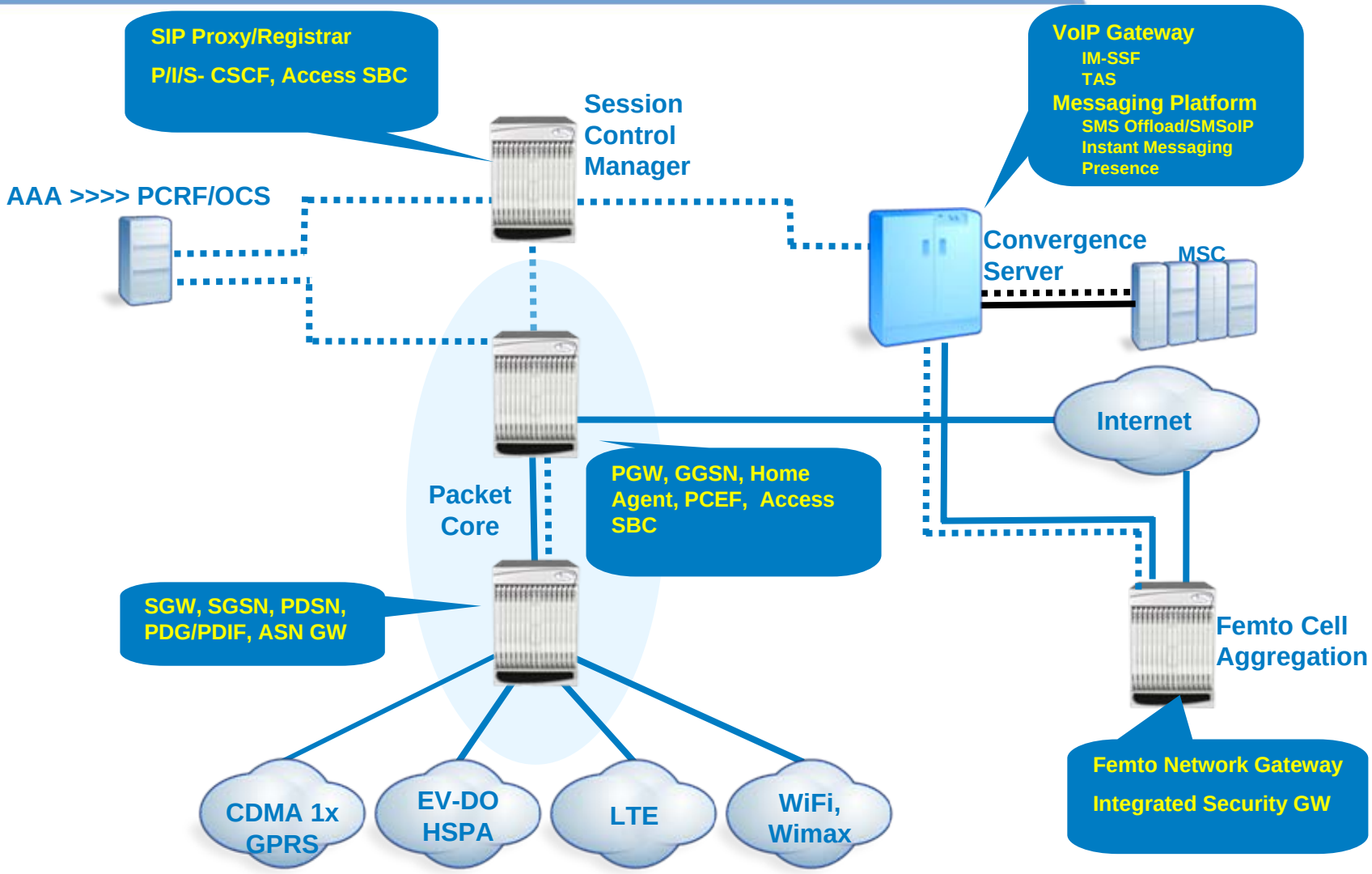
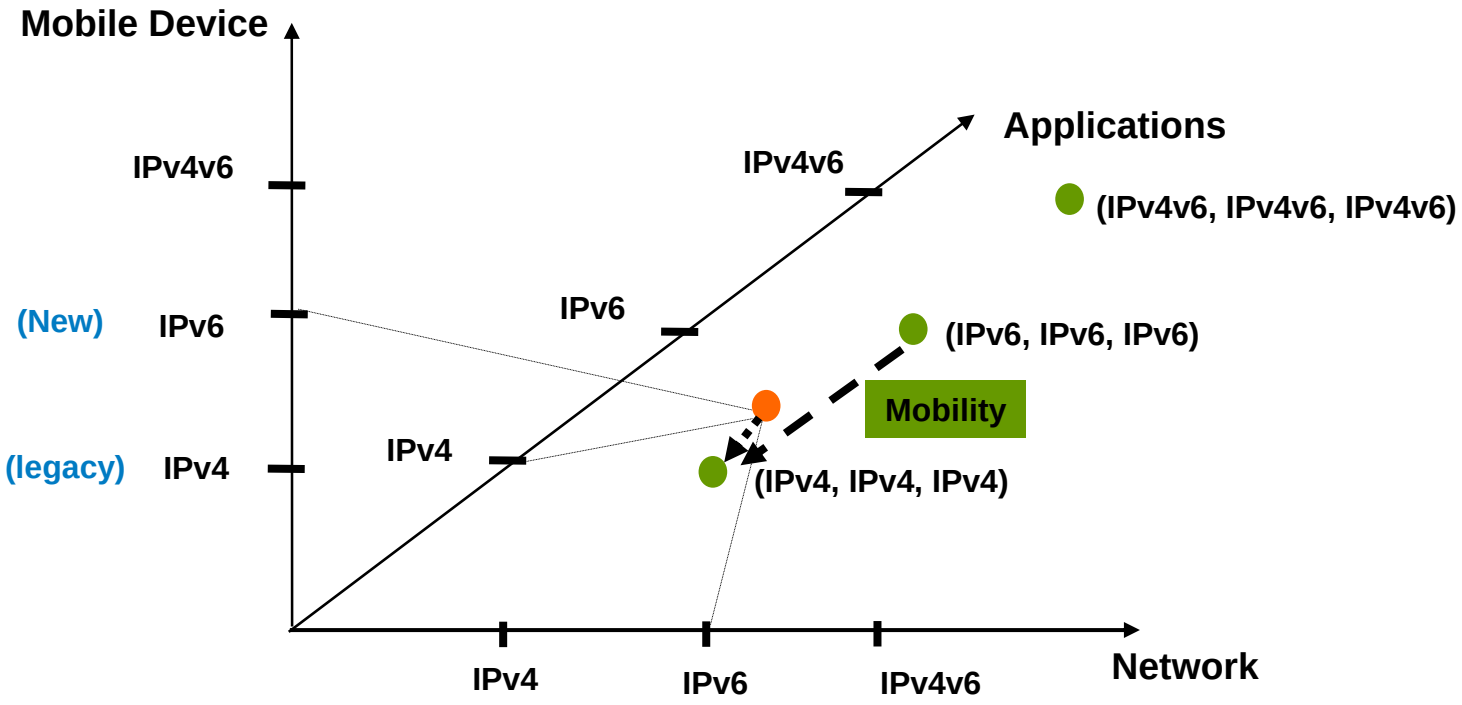
INTELLIGENT PERFORMANCE

Starent Networks: Gateway to the Mobile Internet



IPv6 Transition points



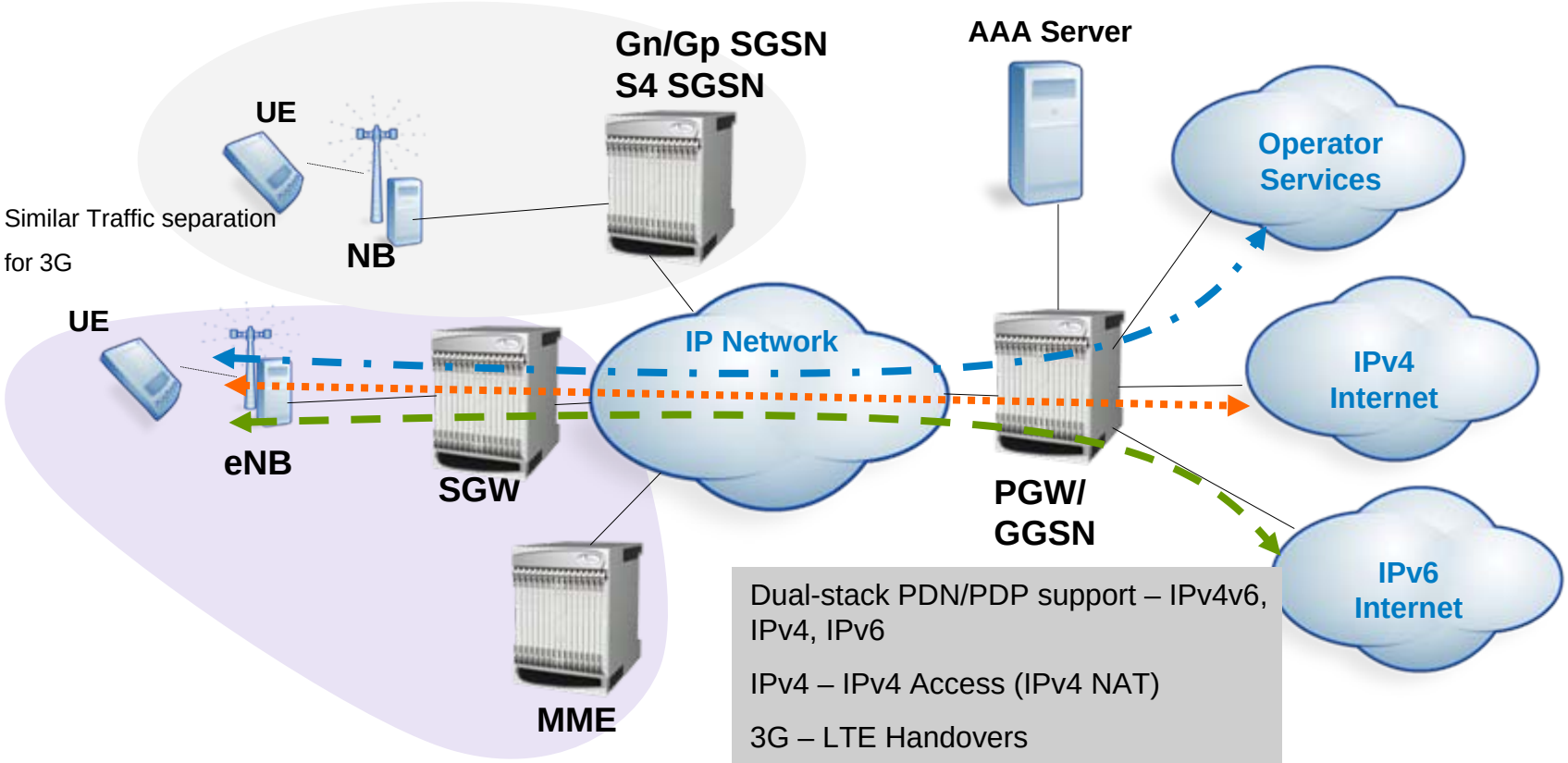
Deployment Considerations: Mobility

- What are the requirements from 3G roaming?
  - 3G deployments support IPv6 when LTE is deployed (Rel-8 upgrades)?
    - Yes: IPv6-only solutions are sensible
    - No: Fallback to IPv4 inevitable
  - 3G deployments support IPv4v6 when LTE is deployed (Rel-9 upgrades)?
    - Yes: single IPv4v6 PDN can be continued
    - No: IPv4v6 PDN in LTE has to be split into different PDP contexts in 3G
  - LTE and 3G deployments continue to use separate PDN/PDP for IPv6 and IPv4?
    - Yes: no identifiable issues
    - No: above considerations apply
- IPv4v6 for LTE, and separate IPv4, IPv6 PDN connectivity for 3G appears to be a good model

Deployment Considerations: Private IPv4 Addressing

- Does your deployment allow sufficient private IPv4 addressing before fully transitioning to IPv6?
  - Yes:
    - Dual-stack transition mechanism
    - IPv4-IPv4 NAT is necessary
    - Both new and legacy UEs continue to use private IPv4
    - No changes to applications in the UEs
  - No:
    - NAT64, Dual-Stack Lite, PNAT or some other mechanism is necessary for IPv6-only UEs
    - IPv4-IPv4 NAT is necessary for legacy UEs
    - Only legacy UEs need private IPv4
    - IPv4 applications may need additional support or may not be supported at all

IPv4, IPv6, or IPv4v6? Summary



Dual-stack PDN/PDP support – IPv4v6, IPv4, IPv6

IPv4 – IPv4 Access (IPv4 NAT)

3G – LTE Handovers

IPv6 – IPv4 Access (depending on the deployment model)