Scenarios and network deployment requirements

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Deployment Scenarios & Requirements

- NAT Traversal
  - Private addresses behind home gateway and within WLAN deployments
- Prefix-delegation
  - Home deployment requires prefix delegation.
  - DHCP may not be present in 3G deployment.
- Protocol scalability
  - Tunnel server scalability may be part implementation but the protocol specification may also effect the scaling.
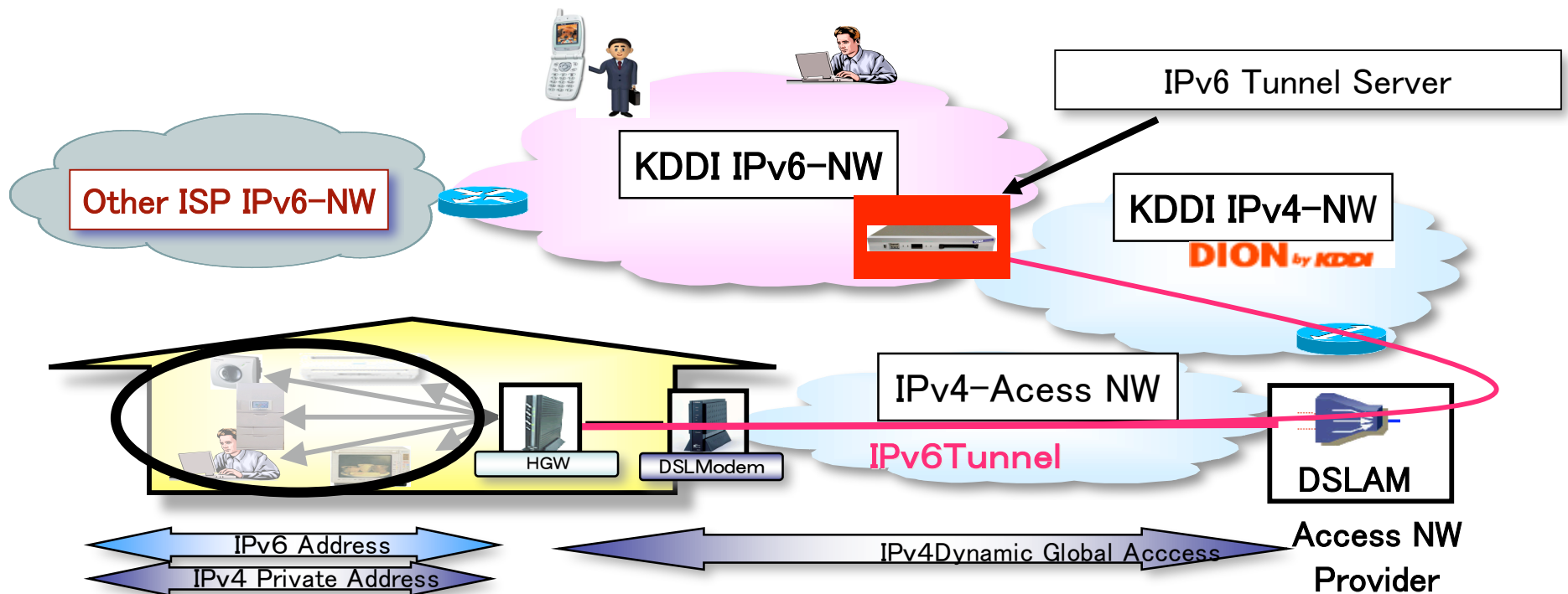
Deployment Scenarios & Requirements

- Tunnel server discovery
  - In 3GPP2-WLAN roaming will require discovery of a local (topological) tunnel server.
- Session continuity & movement detection
  - Change in point of attachment (v4 address) while maintaining the integrity of the application session.
- Multi-level (Hierarchy) support
  - Tunnel from UE to tunnel server
  - Tunnel between tunnel server entity to IPv6 network
- Minimize packet encapsulation overhead and protocol signaling
  - 3G radio resources are costly
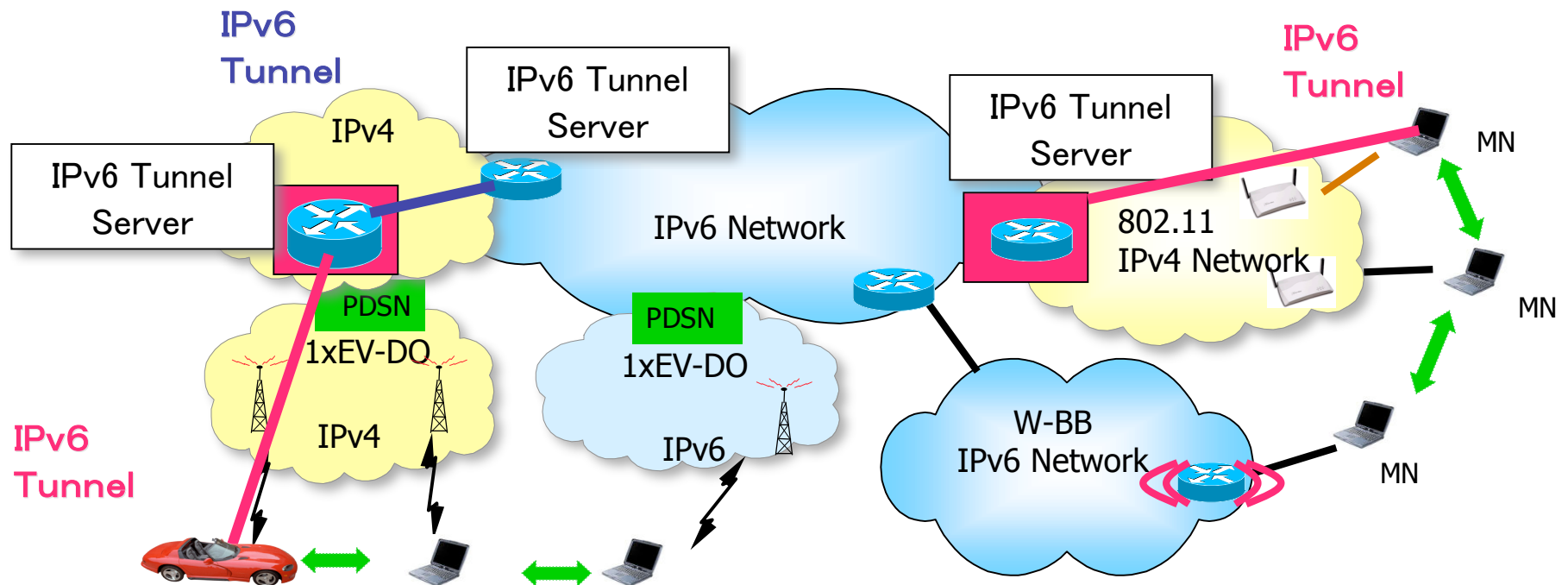
Deployment Scenarios & Requirements

- Security
  - Authentication of the Tunnel Server
    - UE authenticating the tunnel server.
  - Authentication of the UE
    - The Cellular access does not requires this authentication as long as roaming is within operator owned network.
  - Others - Continuing on-going Security analysis –draft-yamamoto-v6tc-security-considerations-00.txt

SIP Services

IMS
(IPv6)

IPv6 Tunnel
Server

PDSN

3GPP2
IPv4 acess

SIP

IPv4 WLAN
access nw

- - - SIP Signaling for building up the session

—— IPv6 in IPv4 tunnel