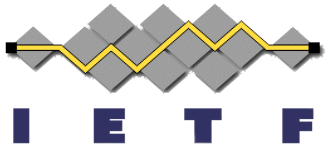


Use cases for MAP-T

draft-maglione-softwire-map-t-scenarios-01

R. Maglione

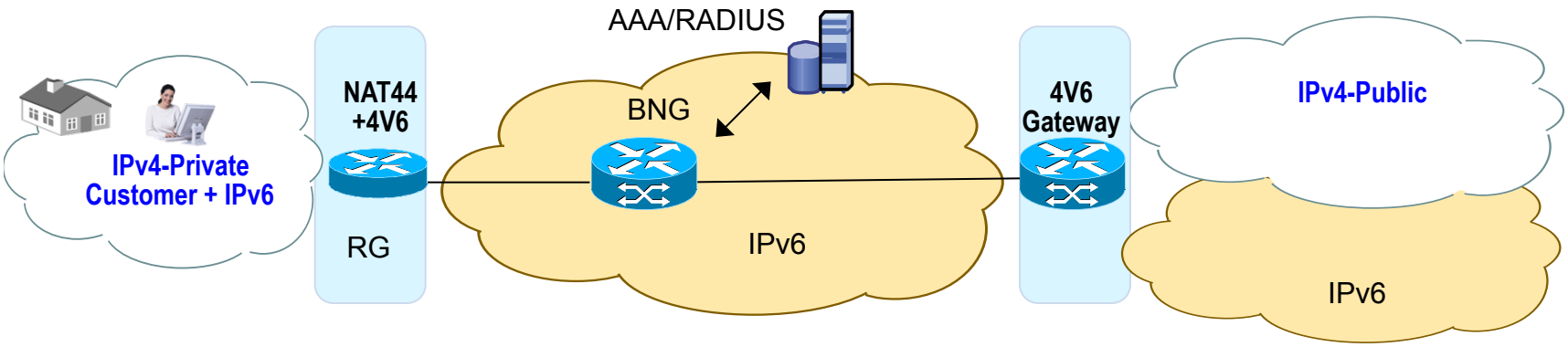
Motivations

- The purpose of this draft is to describe some use cases that would benefit from a translation based approach
- The following scenarios are based on IPv4 services currently deployed in Broadband networks

Use cases

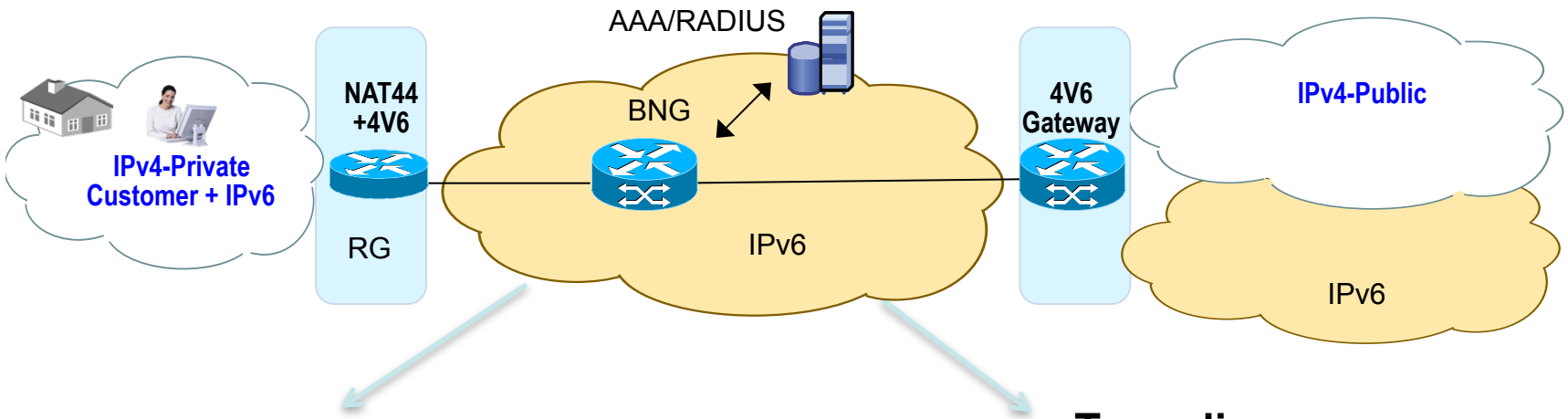
- Access Control Lists
- Layer4 Redirection
- DPI and Cache devices

Access Control List



- Access Control Lists matching TCP/UDP ports are used to identify different types of traffic
- Use Cases/Applications:
  - to deny/permit specific flows
  - to define QoS bandwith profile
- Per Subscriber Access Control Lists are dinamically applied to a PPP Subscriber Session via AAA/RADIUS interface

Access Control List



Translation

ipv6 access-list extended ANTISPAM
 deny tcp any any eq smtp
 permit ip any any

ipv6 access-list extended VIDEOACL
 permit tcp any eq 1755 any
 permit tcp any eq 554 any

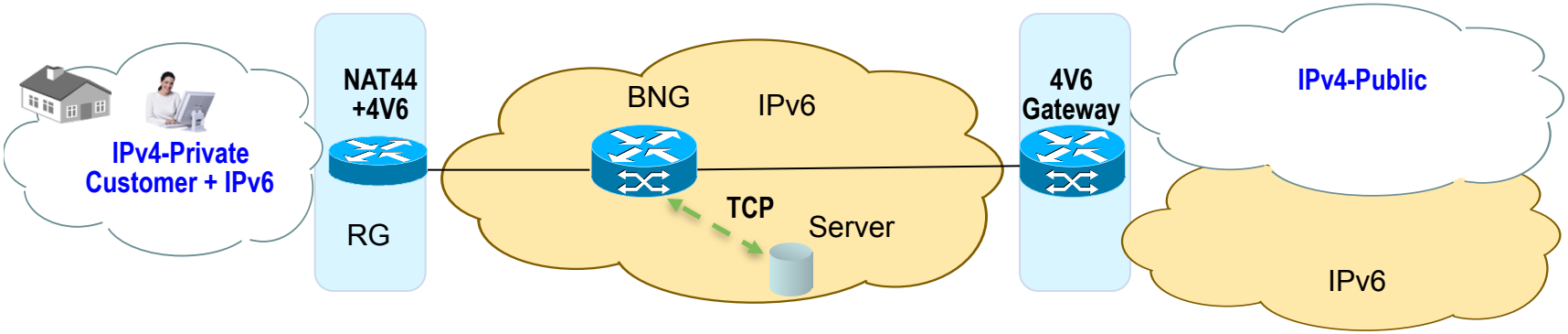
Works TODAY on IPv6 capable BNG's with ACL applied via RADIUS interface

Tunneling

New BNG functionality necessary to process IPinIP traffic

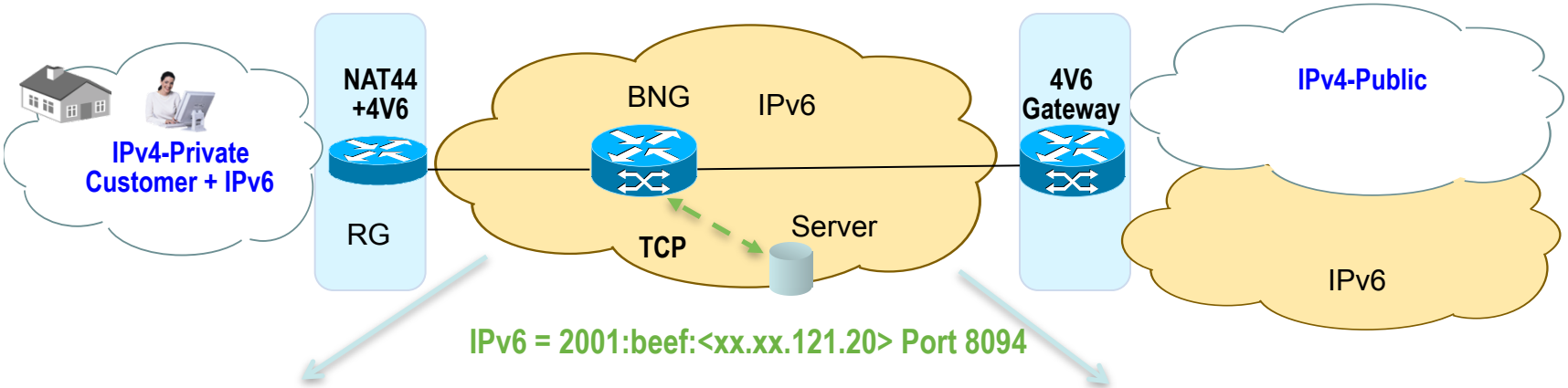
Requires to wait for vendors to implement new features and to upgrade the BNG

Layer 4 Redirection



- Layer 4/HTTP Redirect user's traffic to SP's Web Portal
- Use Cases/Applications:
  - to inform the customer about new service offers
  - to allow the customer to re-charge his account after his credit has expired

Layer 4 Redirection



Translation

server-group Provisioning-server

server 2001:beef:<xx.xx.121.20> 8094

!

redirect port-list WebPorts to Provisioning-server

…

Same service configuration for native IPv6 and 4V6 traffic

Tunneling

Redirection needs to happen at/after 4V6 Gateway

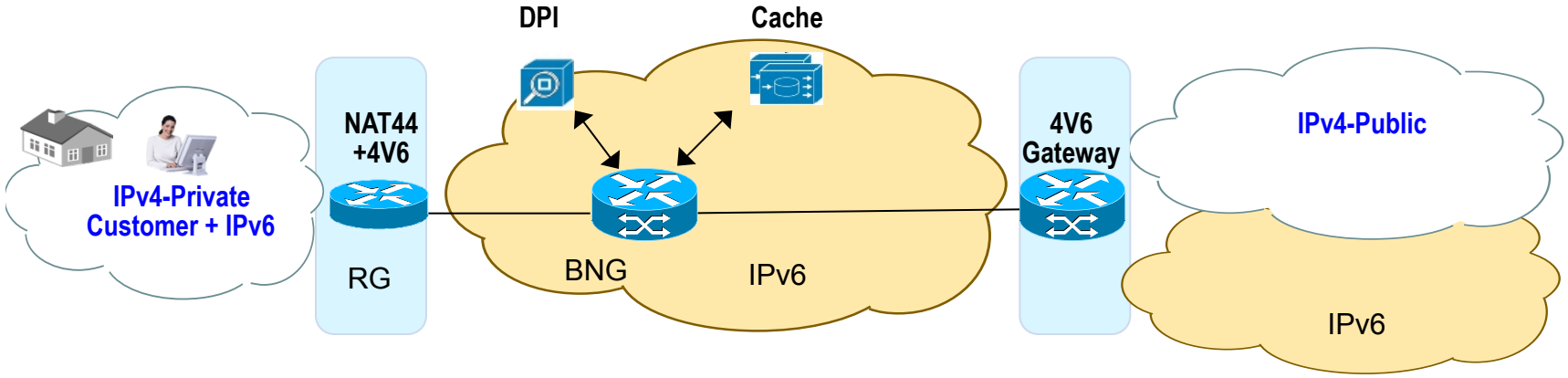
IPv4 and IPv6 traffic redirection happen in different locations

Change the service and/or architecture

Server with IPinIP functionality

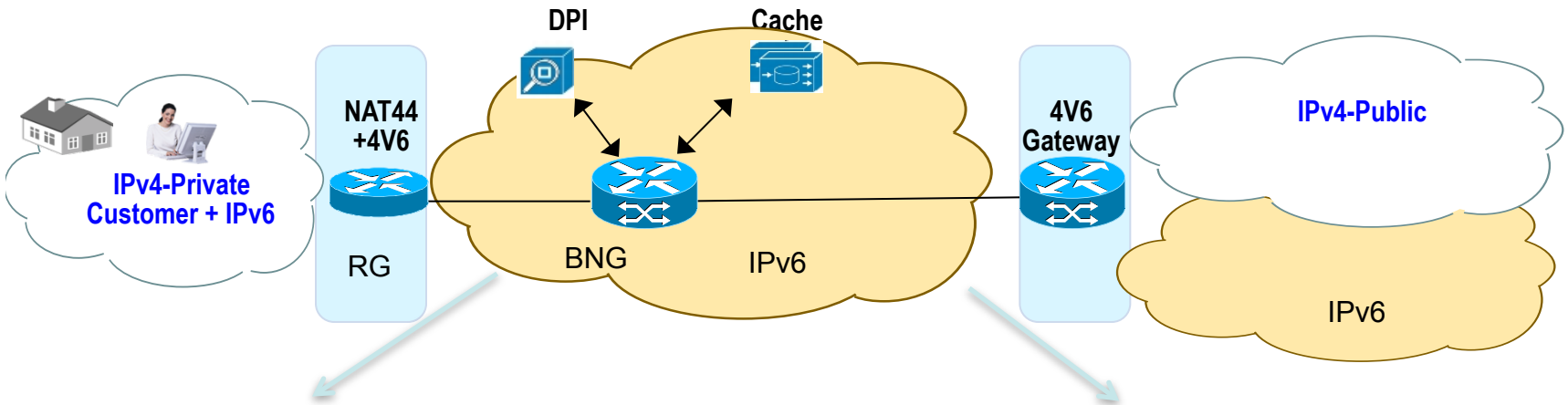
Change the server

DPI and Cache devices



- Use Cases/Applications:
  - DPI devices are used to classify traffic flows based on layer 4-7 identifiers. Classification is needed to provide different treatment for different traffic flows
  - Cache device are used to save bandwidth
- DPI and cache devices are usually located at the edge of the network
- DPI and cache devices available today in the market are not able to analyze encapsulated traffic like IPinIP

DPI and Cache devices



Translation

Works on IPv6 capable DPI/cache devices without any change to the architecture

No need to add new DPI/cache devices in separate locations

Tunneling

New DPI/caching functionalities necessary to inspect IPinIP traffic

Requires to wait for vendors to implement new features and to upgrade the DPI/cache devices

Inspection/caching of IPv4 traffic needs to happen at/after 4V6 Gateway

Change the architecture: separate DPI/ cache devices for IPv4 and IPv6 traffic

Summary

- Both encapsulation and translation can provide IPv4 connectivity to customers in an IPv6 only environment
- *However:* in some cases translation can reduce operational costs by allowing the Service Provider to re-use currently deployed network architecture for both IPv4 and IPv6

Questions?