

**IPv6**



3/7/2013

3<sup>rd</sup> Belgian IPv6 Council



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# 3<sup>rd</sup> Belgian IPv6 Council Telenet Update

8/03/13

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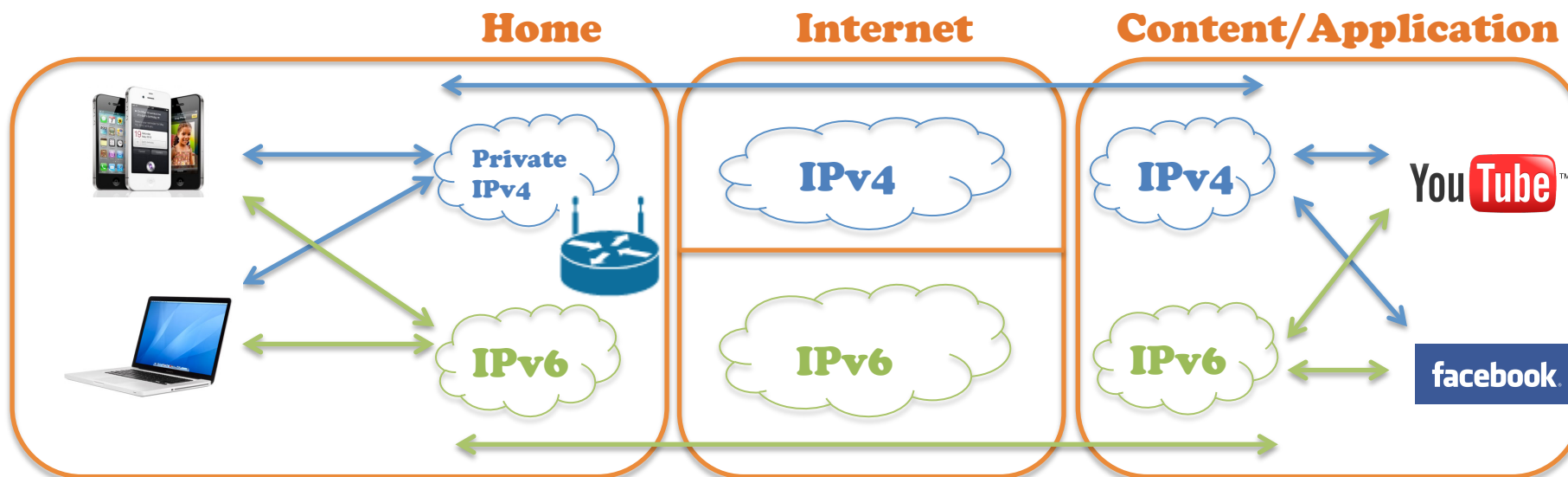


# Background

- Telenet's IPv6 program started nearly 4 years ago
- Incrementally planned and deployed IPv6
  - Entire core network is IPv6 enabled
  - iFiber business product is IPv6 enabled and launched with live customers
  - Residential access network is largely natively IPv6 capable, but not yet visible for the customer

# IPv6 Deployment Strategy

## Dual Stack Transition Mechanism



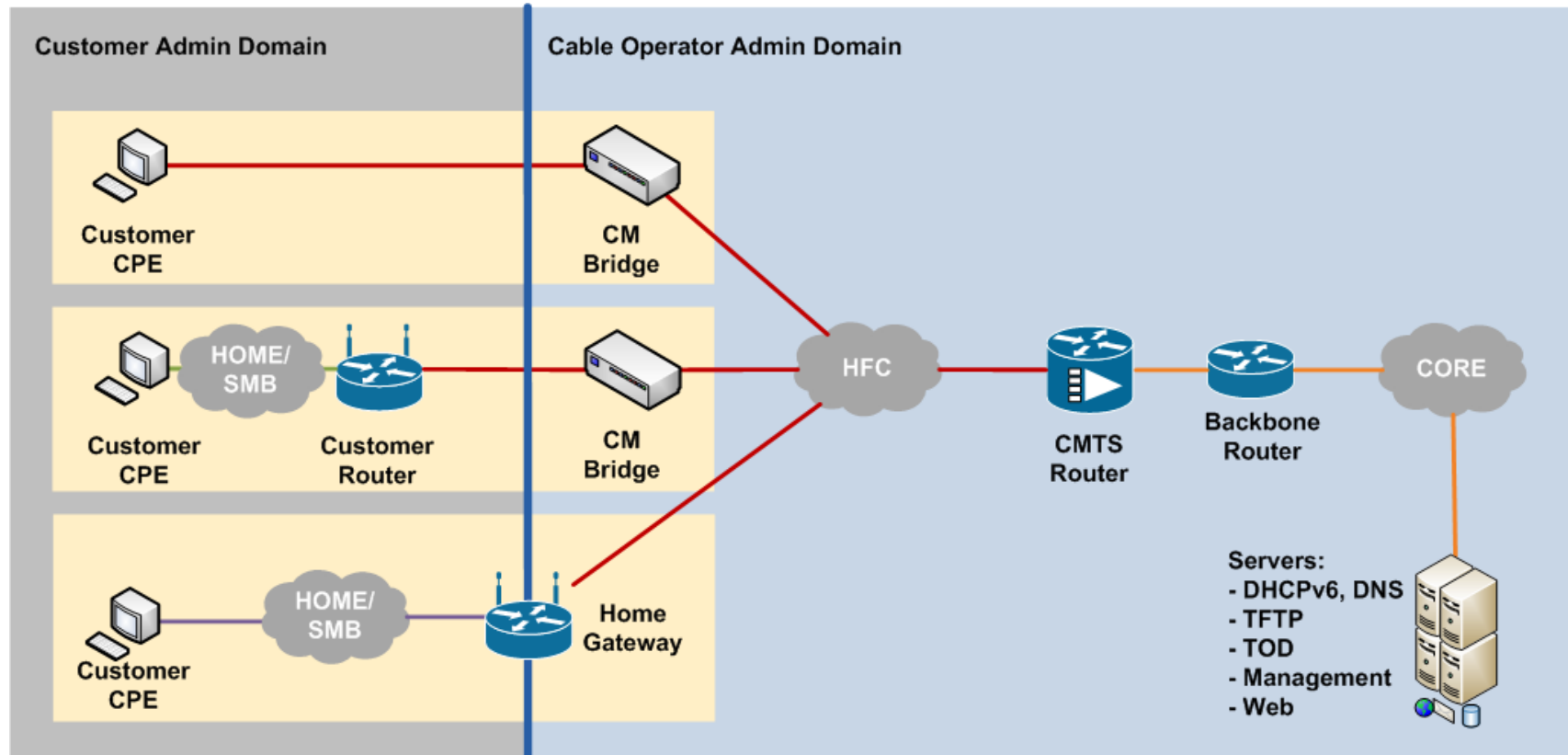
- Application chooses "stack" to connect to application
  - The customer needs 2 Internet Addresses (1x IPv4 & 1x IPv6)
- The customer doesn't know & shouldn't care

# Native Dual Stack

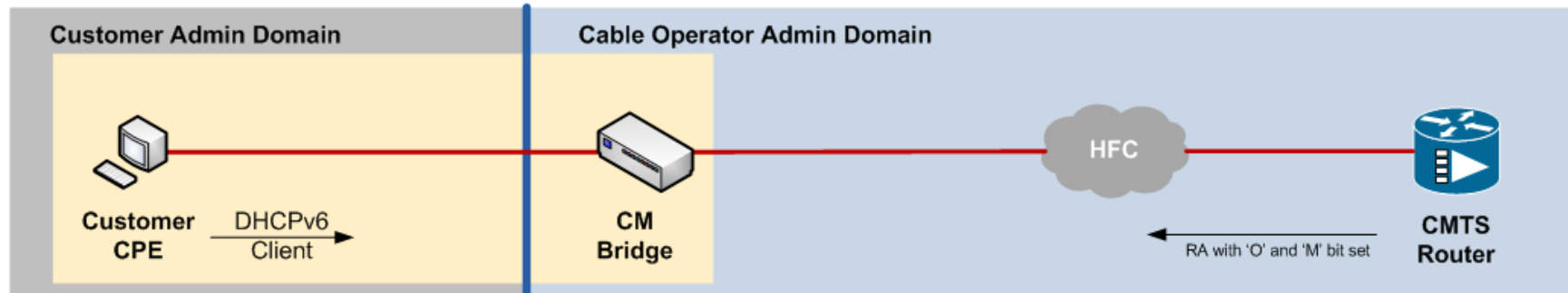
- Existing IPv4 services remain as-is
- Native IPv6 is introduced in addition to classic IPv4 access
- Controlled introduction using known & tested hardware
- Production customer trials planned for 2H2013
  - Focus is on stability of the customer service!
- Cable deployments leverage DOCSIS™ to enable support for IPv6
  - DOCSIS 3.0 components are required to support IPv6
  - Support for IPv6 largely introduced via a firmware upgrade
  - DOCSIS networks require stateful address assignment



# DOCSIS Access Models

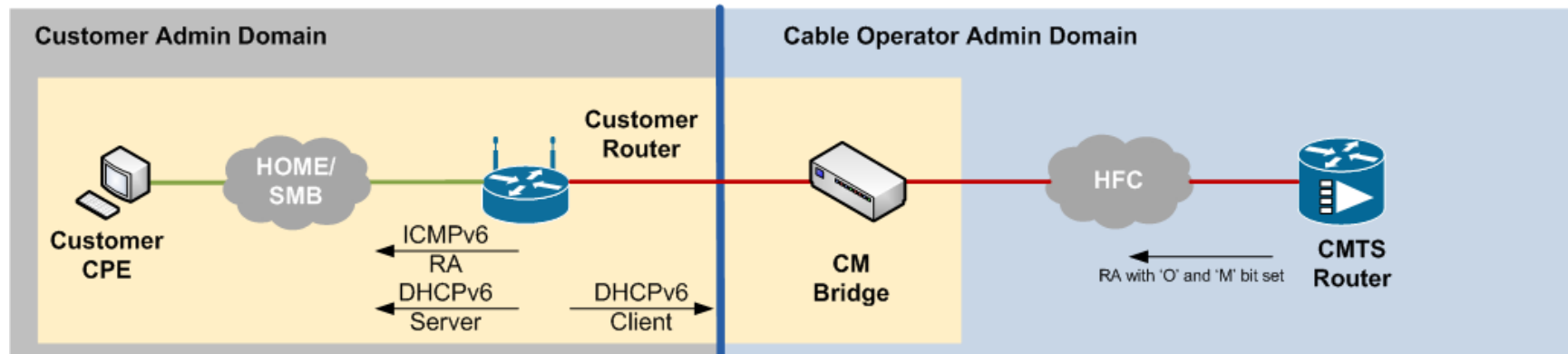


# Directly connected devices



- Address Assignment
  - Must support a DHCPv6 client, client will receive a /128 address
    - Autoconfiguration is not supported
- Telenet does not encourage this access model from a tech. perspective

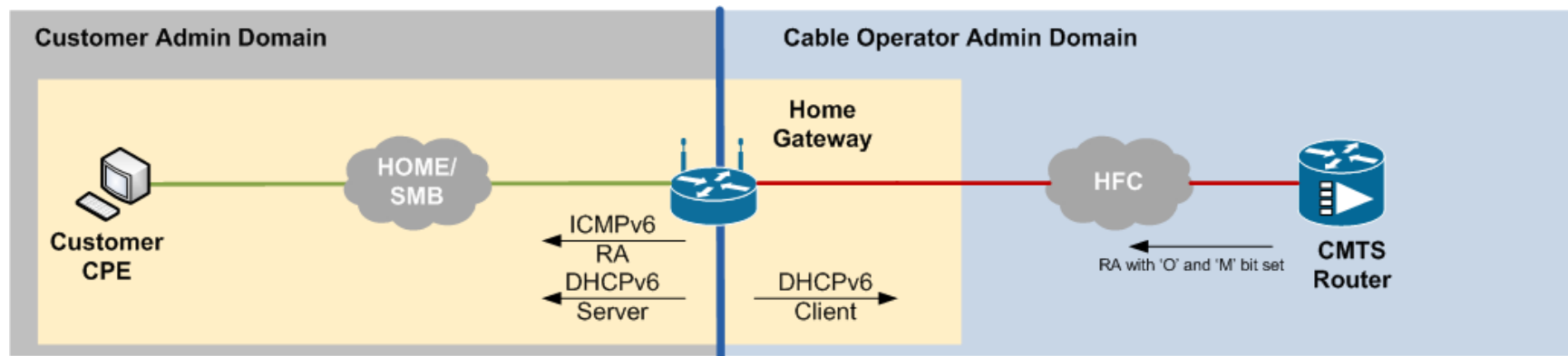
# 3rd party routers



- Address Assignment
  - Must support a DHCPv6 client on its operator-facing interface
    - Autoconfiguration is not supported
  - CPE routers will receive a /128 (WAN) and a delegated prefix (LAN)
    - Shorter IPv6 prefixes will be supported (/56 upto /64)
- Customer inhome-network is unknown for Telenet, so this is a customer responsibility!



# Telenet HGW



- LAN Address Assignment
  - By default, use stateless autoconfiguration
  - DHCPv6 clients are supported
- Stateful Firewall
  - By default allow all customer initiated traffic
  - By default block all internet initiated traffic
  - Customer will be able to alter rules & settings on <http://mijn.telenet.be>

# Observations

- Popular belgian content still seems to be lacking of IPv6 support
- CPE support for native dual stack is increasing
- Consumer electronics are still lacking IPv6 support
- Most browsers implement “happy eyeballs”, but still no sign of any IE implementation

# Q&A

Hans Thienpondt  
Converged Network Engineering  
hans.thienpondt@staff.telenet.be

