

Configuration of DVMRP over a UDL

UDLR Working Group

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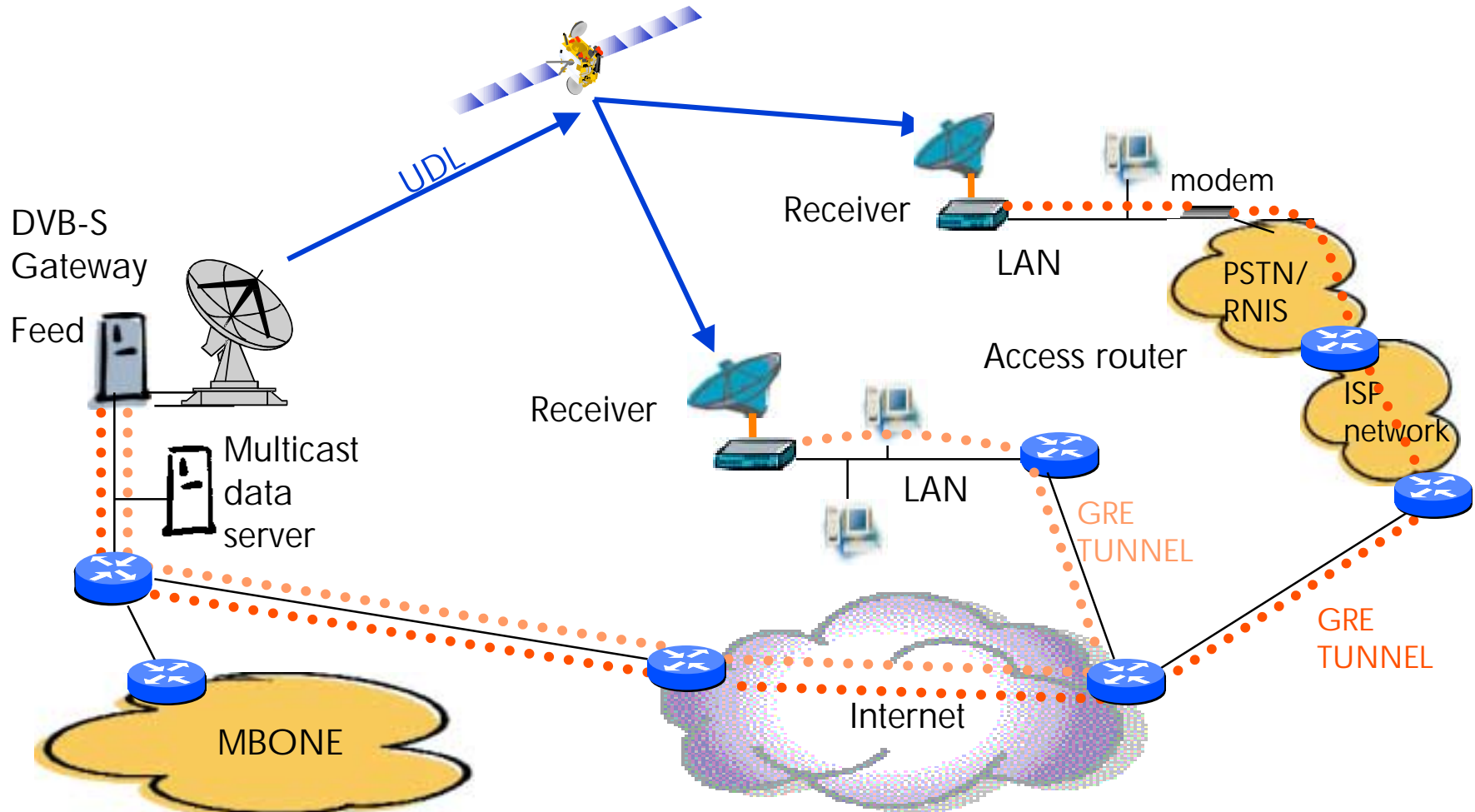
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Objectives

- ▼ To describe how to configure DVMRP over a UDL such as a satellite network to offer multicast delivery services
- ▼ Feed and Receivers are DVMRP routers
 - Feed has a standard DVMRPv3 implementation
 - 2 configuration modes on Receivers
 - "Active mode": a standard DVMRPv3 implementation on Receivers
 - "Passive mode": to reduce DVMRP messages exchanged between the Feed and Receivers
 - A non standard DVMRPv3 implementation on Receivers
 - No need to have a return channel link to send DVMRP message to the Feed

Network architecture



Changes 01 → 02

- ▼ New structure and wording for clarity
- ▼ Section 2.2.3 Scalability issue of DVMRP: more details
 - First factor: the number of DVMRP Probe messages periodically exchanged between Receivers and Feed (period 10s)
 - Is proportional to the number of Receivers connected to the UDL
 - DVMRP implementations have a limited number of Neighbor routers
 - Second factor: Report messages sent by Receivers to the Feed via GRE tunnels (every 60s)

▼ Section 2.3 Passive mode configuration on receivers

□ Section 2.3.1 Feed configuration and behavior: more details

- The Feed configuration is the same as the one when receivers are in active mode
- To forward multicast session over the UDL the Feed must receive a join message (mtest program or another program)
- It is interesting to forward advertisement of multicast sessions with SAP/SDP and multicast sessions about hot-topics

□ Section 2.3.2 Receiver configuration and behavior: more details

- New parameter: `switch_uni_bi <group IP address>`
Example: `switch_uni_bi 224.5.6.7`
- Receiver does not send DVMRP message on GRE tunnel
- Receivers forwards multicast data from the UDL to the LAN interface according to its multicast routing table

- ▼ Section 2.4 How to switch between active and passive mode
 - A receiver switches to active mode upon reception of an IGMP join message to <group IP address> ("switch_uni_bi" address)
 - A receiver switches to passive mode when there is no more member for this particular group on the LAN interface
 - A receiver needs to switch to active mode when
 - There is a subscriber on the LAN to a multicast session that is not forwarded by the Feed over the UDL
 - An End-User wishes to participate to a multicast session (to send multicast data)

▼ Section 3 Domains of application

□ Section 3.1 Application using a RMT protocol

→ Details about how a NACK sent by an active receiver to the source prevents other Receivers on the UDL from sending the same NACK

□ Section 3.2 Multicast application with interactivity (tele-teaching, collaborative works)

→ To deliver a course or a lecture: receiver in passive mode

→ To ask questions: receiver has to switch to active

▼ Section 4 Other network architectures

□ Section 4.1 Connectivity on the same LAN as the Feed

→ The owner of the Feed is sure that at least one active receiver is on the UDL allowing a huge number of receivers on the UDL to be in passive mode and to listen multicast sessions

Next step

▼ Any questions or comments ?