UDcast

Full IP over BROADCAST Media

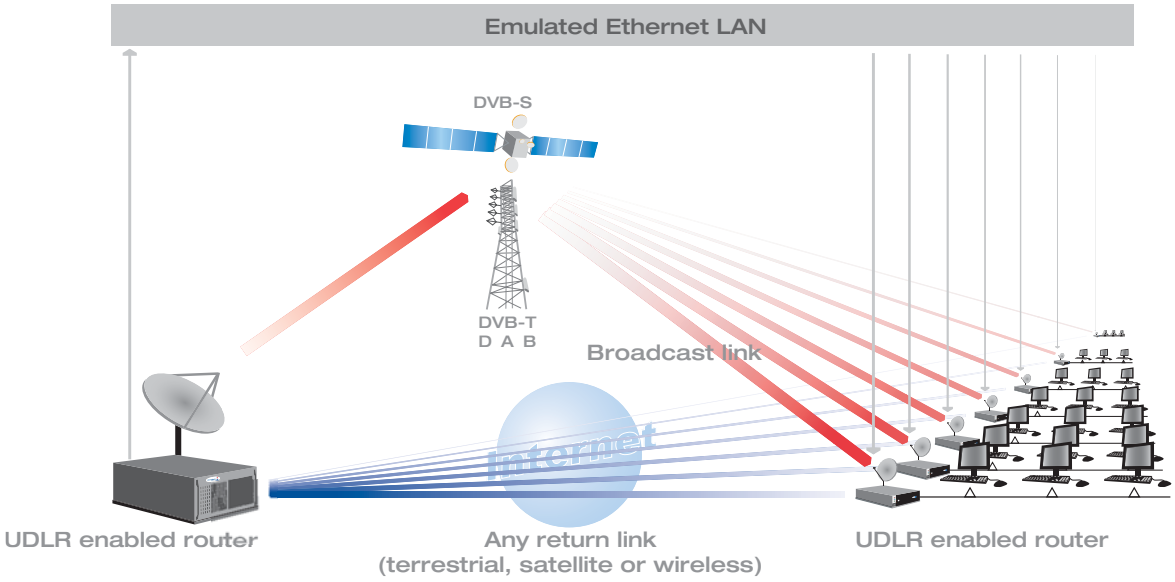
UDLR

Solution for hybrid IP networks *

Software/Protocol implementation

+ Full duplex on broadcast links
+ Dynamic Routing enabler

UDLR



01 Description

The **UDLR** protocol enables full IP routing functionalities over hybrid asymmetric network infrastructures, based on broadcast links for the forward path (satellite, digital radio or terrestrial free-to-air), coupled with any IP return path.

UDcast's **UDLR** is the trusted implementation of the Uni-Directional Link Routing standards-track protocol - IETF RFC 3077.

UDLR acts as an enabler, hiding hybrid network infrastructures from the IP layer, and even from layer-2 protocols, such as Ethernet. Bus structures can therefore be created from physical star topologies, with typically hundreds of spokes. **UDLR** is the perfect link between traditional IP/Ethernet topologies and broadcast star-based physical infrastructures.

UDLR is a key technology in removing physical constraints to IP. UDcast's **UDLR** product allows network professionals to freely choose the appropriate physical network link (based on bandwidth costs, scalability, reach) and allows MIS teams to focus on providing new applications and revenue models.

* The return path uses a different physical link than the forward path.

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02 Features / Benefits

+Native IP networking over hybrid infrastructures
- . Supports standard IP routing and security (dynamic multicast and IPsec)
- . Any IP application and routing functionality are supported transparently

+IP Virtual Private Network (VPN) support - Layer 3 -
- . Full control of IP addressing schemes
- . IP traffic privacy, whatever the hybrid infrastructure

+LAN in the sky - Layer 2 -
- . By hiding the physical network configuration from IP, UDLR creates a full Ethernet-like segment between all receiver sites
- . Allows affordable deployment of wide-area IP access, across a common, one-hop IP infrastructure

+Scalable solution
- . Enables native IP networking where previous satellite based solutions have not succeded
- . Native WAN overlay to support full scaling of corporate networks

+Standard: fully compliant to RFC 3077
- . Interoperability with any standards based equipment in place
- . Ensures independence and flexibility for future provisioning decisions

+Physical layer agnostic
- . Any broadcast link: DVB-S, DVB-T, DAB
- . Any terrestrial, satellite or wireless IP based return channel (bidirectional or even unidirectional)

03 Usage

UDLR enables a wide range of network and application services.
Examples of advantages for possible customer categories are:

+ISP
- . End-to-end, transparent IP routing with isolated sites
- . Extension of traditional services to previously non-targetable customers become possible

+Service Provider
- . New interactive services to previously non-targetable customers become possible
- . Creation of new revenue models

+Corporate/Integrator
- . Internal intranet services extended to remote sites
- . Additional services on top of existing infrastructure become possible

04 Integration

+Integration within the UDcast product suite
UDLR is the corner stone to the UDcast software suite. As an essential complementary product, UDroutecast implements a scalable IP multicast routing protocol with specific improvements for hybrid IP environments, and for a multicast WAN overlay of an existing unicast network. As an option, UDLR can be fully secured using UDauth, authenticating all sites communicating with the UDLR-enabled hub.

+Integration with the customer's environment
As all UDcast protocol implementations are compliant with standards (promoted by IETF & ETSI for example), each UDcast software product, such as UDLR, is interoperable with any other standard product. Typically, UDcast's UDLR can be installed on all or some end user sites and interoperate with any UDLR capable hub in a transparent way.

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