



TunelNet: The more efficient, secure, and economic way to transmit data

The TunelNet invention proposes a highly advanced method to “route” data packets in communication networks by a sender-based distribution scheme with hierarchical filtering. This method minimizes the complexity of conventional data transmission systems, especially the routing effort, and at the same time maximizes the usefulness of the network for customers.

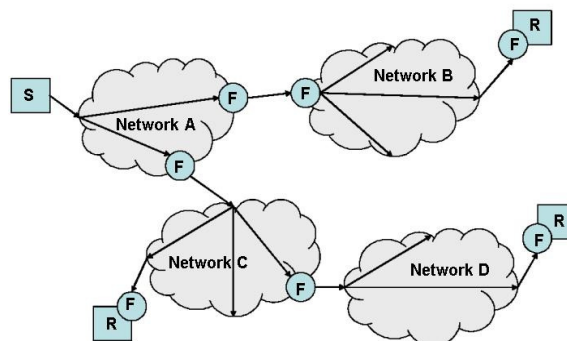
Keywords Next Generation Networking, multicast, Quality-of-Service (QoS), routing, addressing, robustness/fault tolerance, security, economic efficiency, low maintenance costs, self-healing, self-organizing, self-protecting, privacy.

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Reference in preparation

Background Today’s transmission of data has reached a high level of technological complexity, requiring highly sophisticated control algorithms and mechanisms, such as routing, flow control, or congestion control, and many advanced and cost-intense hardware devices, such as backbone routers, access points, or network monitoring boxes. Nevertheless, many demands of customers are still insufficiently addressed, such as robustness, security, multicasting, fault tolerance, and simultaneously of providers in terms of low operational costs.

Invention TunelNet satisfies all mentioned requirements, while drastically reducing the technical complexity. Essentially, all data packets are labelled with an encrypted information identifying the recipient and are placed into the network. These individualized data packets are in principle available at any location, where access to the network is granted and can be extracted by the authorized recipient. To reduce the amount of data in networks, filters are installed at different locations. This results in an efficient and secure network compared to state-of-the-art data transmission technologies.



Overview of basic TunelNet functionality: S: Sender, R: Receiver, F: Filter

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