

ROBUST MULTICAST COMMUNICATION IN HETEROGENEOUS FOR SOCIAL NETWORKING

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Abstract

The Efficient Internet multicast schemes are based on constructing one or more spanning trees of the network. The efficiency with which multicast communication can take place is largely determined by the network level support available for such communication. Two factors contribute to the complexity of supporting current multicast applications, the lack of reliable multicast transport mechanisms at the network level and the lack of network support for large scale multicast communication. Our work examines the issues pertinent to eliminating these shortcomings. First we show that internet multicasting algorithms based on reverse path forwarding are inherently unreliable and present a source-tree-based reliable multicasting scheme. The new scheme makes use of simple inter-gateway protocols and works on top of previously developed distance vector and link state internet routing schemes. Next, to support large scale applications, we present a scheme for partial multicasting and introduce a new network level operation, called gather. The partial multicasting mechanism allows messages to be delivered to subsets of multicast destinations, while the gather operation aids gateways in selectively suppressing redundant messages, thus reducing the message complexity. Using simulations, we investigate the efficiency of our schemes in supporting scalable application domain based on multicast communication.

Keywords: Multicast, Gather, Inherently Redundant, Unreliable.