SORD: A Fault-Resilient Service Overlay for MediaPort Resource Discovery

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Abstract:
This paper proposes a new fault-resilient service overlay for MediaPort resource discovery that allows services to be efficiently and accurately located. MediaPorts are network-side functions used in the path between the source (media server) and the sink (media client). MediaPorts enable the adaptation of media content by providing value-added services such as caching, synchronization, and special routing functions. Our new approach addresses the problems of inefficiency and large message overhead, both typical of traditional approaches to resource discovery. The approach is based on a widely studied family of chordal rings, called the optimal chordal ring. Our solution is based on the types of services offered and also on the geographical locations of nodes. Extensive simulation results are presented to validate the effectiveness of the new approach, when compared to several other service-discovery solutions.

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