

## CS740: Review of A Case for End System Multicast

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This paper aims to solve some long-term problems generated from IP multicasting. The major thought of this solution is to move all multicasting functionality from networking devices into end systems. This paper studies with Narada protocol, in which end systems self-organize into an overlay structure. Both simulation and Internet experiments are applied to verify the optimization of overlay efficiency by dynamically adapting. The potential benefits of transferring multicast functionality from end systems to routers significantly are believed to be worth the performance penalty incurred.

While end system multicast has many advantages, there are still several issues to be resolved for practical applications. Overlay approach to multicasting is efficient, but they will generate some unnecessary traffic by sending same traffic onto same physical links. Another problem is that since end system multicast is based on individual host, the latency for some hosts may be much greater than the average latency in IP multicasting. Although experiments and simulations results shows end system multicast achieves good performance for small and medium sized groups, performance of end system multicast architecture scale to support much larger group sizes is still remained as an open question.

For today's network, how well end system multicast can be applied need to be evaluated. Both IP multicast and end system multicast have their advantages and disadvantages. The original purpose of multicast is to improve the performance of continuous unicast from single host. IP multicast provides latency close to unicast while end system multicast resolve the management and overhead caused by IP multicast, but introduce unstable factors on latency. What I am going to say is that, the combination of two different multicast schemes can be considered for further networks. Both multicast mechanisms ought to have their own suitable applications, like IP multicast for real-time/multimedia applications and end system multicast for resources-urgent environments.