

## **Abstract**

Overlay networks are virtual networks built on top of the physical computer networks. A special kind of these networks is built specifically to meet specific user's requirements. They are called Services Specific Overlay Networks (SSON). Managing and achieving load balancing in such environment is challenging. This challenge is always increasing as the current technology faces the challenge of increased complexity, cost, and heterogeneity. However, traditional strategies don't satisfy the needs of current technology trends. In this paper we thoroughly review the state of the art in load balancing techniques and propose a novel self-load balancing scheme for autonomic overlay networks. The proposed scheme employs the spatial index and partitions the overlay space to build a distributed quad tree.