Achieving Load Balancing in heterogeneous peer- to-peer networks

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Abstract - Literature review revealed that P2P networks are genwerally used for file sharing applications. This paper argues the existing methods of building heterogeneous unstructured peer -to- peer (P2P) networks has joining process and the rebuilding process which does not make effective load balancing . Since the joining process is to use random walk to assist new incoming peers, but it does not decide whether the new peer can be used for process sing the workload. Similarly the rebuilding process specifies how nodes should react when they lose links, that is it leaves the network safely without affecting the existing performance, but the peer machine that is leaving the network does not allocate its work to the remaining peers. So we have proposed a simple protocol for building heterogeneous unstructured peer -to- peer (P2P) networks. Our new protocol consists of two parts - the allocating process and the reallocating process . The basic idea for the Allocating process is to use random walk to assist new incoming peers in selecting their suitable neighbors in terms of capacity and connectivity to achieve load-balancing and also to decide whether that peer can be used for processing the workload of the network based on its capacity.