

MS Scholarly Paper Presentation
Department of Electrical and Computer Engineering
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Enhanced Path Computation Methods for label Switched Networks

By:

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Abstract:

Path computation plays a fundamental role in effective utilization of network resources and its performance. The challenge of today's network is to compute and update shortest constrained Traffic Engineering Label Switched Paths (TE LSPs) in a centralized and distributed Multiprotocol Label Switching (MPLS) and Generalized MPLS (GMPLS) networks across multiple routing areas or domains or autonomous systems (AS) whose topology changes dynamically over the time. This is because the service providers usually choose not to leak routing information beyond the routing area or AS for scalability constraints and confidentiality concerns. This paper basically provides the description of the existing and ongoing works in the field of inter domain traffic engineering path computation. Several scenarios that motivate the use of a PCE-based architecture are highlighted. Various inter-domain path computation methods such as Per-domain, Backward Recursive Path Computation (BRPC) for stateless and Stateful PCE and Hierarchical PCE are discussed as well. Finally, a performance comparison between per-domain path computation and backward recursive path computation (BRPC) [RFC 5441] is carried out.