提高群播樹鏈路故障存活性之圖形擴充演算法

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摘 要

本論文主要探討如何加強網路群播樹在鏈路(link)故障發生時之存活性的問題。由於網路上對群播的需求漸增，如何增加群播樹在鏈路故障時的存活性越顯重要。在目前的相關探討中，主要是利用邊互斥(edge-disjoint)的路徑配對來建構具存活性之群播樹，由於此類方法可能會增加傳輸主要路徑的長度，進而增加傳輸的延遲時間。因此本文提出對已建立好之群播樹加強鏈路故障存活性的概念，也就是為群播樹增加最少的邊(edge)使之成為二邊連通(2-edge-connected)；至於加邊的策略，本文提出兩種?發式(heuristic)演算法，其中Low Cost Survivable Multicast (LCSM)的方法所加邊數(cost)較少，接近最佳解；至於Fast Discovery Survivable Multicast (FDSM)的方式則執行速度較快，但cost會比LCSM略大。

關鍵詞 : 群播樹、存活性、二邊連通

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