

光纖網路上多重傳輸問題之研究

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摘要

中文摘要 分波多工 (Wavelength Division Multiplexing, WDM) 的技術讓光纖網路可以提供極大的頻寬以及資料的穩定性, 使用者因此能夠在極短的時間內傳送大量的資料, 解決現在網路頻寬的不足。然而, 隨著多媒體發展以及視訊會議的普及, 點對多點的傳輸方式變成很重要, 因此, 我們將探討在WDM光學網路上進行群播 (multicast) 時, 若僅有某些節點具有分光複製能力時 (sparse light splitting), 光樹 (light-tree) 如何建構的問題。A.Zsigri 【1】等人提出了S3P演算法來建構光樹, 雖然節省了許多的波段 (wavelength channel), 但會產生極大的傳輸延遲, 因此我們提出了一個新的演算法SPTR (Shortest Path Based Forest with Tree-Reconnecting algorithm) 來改進S3P, 適當的減少過大的傳輸延遲, 使得整體效能更好。關鍵字: 分波多工 (Wavelength Division Multiplexing; WDM), 群播 (multicast), 稀疏分光複製能力 (sparse light splitting), 波道 (wavelength channel)

關鍵詞: 分波多工; 波道; 群播; 稀疏分光複製能力

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