以權重法為基礎之階層式叢集行動隨意網路信賴評估機制

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摘 要

行動隨意網路有著許多不穩定之特性，例如斷線、電力、資料傳送率、惡意節點攻擊等。階層式叢集管理架構的使用，即可以改善上述缺陷所造成之影響，但是，節點的加入、刪除、管理與通訊，皆須透過叢集頭(Cluster Head)進行管理。在如此的架構下，叢集頭勢必扮演重要的角色，因此，建立一個信賴評估機制來挑選出可靠的叢集頭是階層式叢集管理的首要工作。現有叢集管理技術中，是由各節點評估鄰近節點之信賴值，再以信賴值最高者擔任叢集頭之角色。但此種方法並不能客觀地選出可信賴的叢集頭，且無法抵禦惡意節點預謀欲擔任叢集頭角色之攻擊。因此，本研究將利用節點的行為歷史(Action History)與屬性資訊，並配合最佳權重法(Optimal Weighting Scheme)以計算各節點信任值，進而挑選出信賴叢集頭，以加強階層式叢集架構的安全性。此外，現有代理群播節點選取方法並無考慮其信賴度，因此會有惡意節點擔任代理群播節點角色的風險。所以，本研究將基於信任值方法來選取代理群播節點，以建立一個有效率的信賴階層式叢集行動隨意網路傳輸環境。

關鍵詞 : 行動隨意網路;階層式叢集;叢集頭;信賴評估

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