

基于资源适配的软件无线电应用自动部署算法

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摘 要: 针对当前软件无线电应用自动部署算法在运行环境约束方面的考虑不足, 提出了一种更为通用的系统模型, 将应用的处理资源需求、内存资源需求、带宽资源需求和运行环境需求都纳入到应用部署过程中; 采用基于可变窗长的部署算法以达到最小化系统资源占用的目的. 仿真结果表明, 运行环境约束对应用的部署具有重要影响. 另外, 该算法窗长越大, 算法性能越好.

关键词: 软件无线电; 应用部署; 系统模型; 运行环境; 资源占用

Automatic Deployment Algorithm of Software Radio

Application Based on Resource Adaptation

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Abstract: Aiming at the limitation of the automatic deployment algorithm of software radio application, the paper puts forward a more general system model which integrates the processing resource requirement, memory resource requirement, bandwidth resource requirement and operating environment requirement into the application Deployment process; using a variable window-based deployment algorithm to achieve the purpose of minimizing system resource consumption. The simulation results show that the constraint of runtime environment has important influence on the application deployment. In addition, the larger the window length is, the better the algorithm performance is.

Key words: software defined radio; application deployment; system model; operating environment; resource consumption

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