Abstract

Computer communication has been going through major changes throughout the last decades. While wireless technologies have been widely adopted, various domains and implementations like wireless sensor Networks (WSN), mobile ad-hoc networks (MANETs), wireless mesh networks have emerged. Since TCP/IP was a protocol designed for wired networks, wireless transmission poses unique challenges to the well-defined and rigid protocol stack. The well-known layers of the OSI model or its practical counterpart TCP/IP model were too strict in some cases to provide with all the services necessitated by these new domains. These issues make way to cross-layer design where the traditional boundaries among layers are violated in different ways to achieve performance gain. In this paper, we gather the motivation behind the cross-layer design, illustrate some representative examples and draw conclusions for the future challenges.

References

2010.

Index Terms

Computer Science
Wireless

Keywords
Cross-layer design wireless networks