VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM- 590018

A Project Report

On

OPTIMIZATION OF QUALITY OF SERVICE REQUIREMENTS FOR REAL TIME APPLICATIONS USING CROSS LAYER DESIGN

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Submitted By

Sayed Mustafasha H.D	2bv08cs095
Sneha Watharkar	2bv08cs103
Vinayak Banavi	2bv08cs120
Vinaynikhil Hiremath	2bv08cs122

Under the guidance of

Prof. Vijaylakshmi M

BVBCET K L E Society
CREATING VALUE
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
B.V.B. COLLEGE OF ENGINEERING & TECHNOLOGY,
HUBLI – 580 031

(An Autonomous Institution affiliated to VTU, Belgaum)

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ABSTRACT

The evolution of the Next Generation heterogeneous Networks relies on the improved services that these networks can provide to real-time applications. Applications running on wired networks work seamlessly with the Open Systems Interconnect (OSI) protocol stack implementation. Its modularity eases functionality and improves performance of these applications. However, the channel conditions for wireless networks are constantly varying. This affects the performance of real-time wireless applications running on wireless networks.

Therefore, the operation of the OSI protocol stack is not as effective as it is when used with its wired counterpart. So here we propose a design called Cross Layer Design architecture that can be used to extend the functionality of the OSI protocol stack allowing cross layer communication between non-adjacent layers of a wireless application. It proposes a means of improving end-user delay and per-user throughput of Voice over Internet Protocol (VoIP). The proposed method entails execution of cross-talk between the transport and MAC layers of the protocol stack through cross layer clients appended to each layer and controlled by a local host called a Cross Layer Manager.