

QoS AND MOBILE TECHNOLOGIES

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CHAPTER 2

1

INTERNET QUALITY OF SERVICE ARCHITECTURES

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2.1 INTRODUCTION

There is huge growth in internet recently. This growth is started initially at slow rate with limited number of applications. However as the time progresses the network has expanded in term of users and applications. This expansion dictated an alteration and modification of the original protocol to enable higher Quality of service. This chapter provides an over view about QoS requirements, architectures.

2.2 QUALITY OF SERVICE PARAMETERS

Quality of service in a network is measured by using three important parameters [1]

Delay: is generally defined as time take for a packet to travel for sending source to receiving destination and it has tow component

- 1) Propagation delay PD
- 2) Queuing Delay QD

$$QD = \sum DQ_i \quad \text{where } DQ_i \text{ is queuing Delay at router } i$$

$$\text{The total delay } D = PD + QD$$

Due to the variation in queuing process the delay could vary a little bit therefore we could have minimum delay and maximum delay and when delay is used without specifying minimum or maximum it generally refer to average delay

Delay variation: also known as Jitter, is variation in delay, that is because each packet experience different delay while crossing the network due to variation queuing time,

Throughput: the term throughput rate of traffic the network is capable to handle per unit time is slight different from the term bandwidth which refer to capacity of network and it loosely tied with time.

Losses: refer to dropped packets as result to congestion or any malfunctioning within network.

These parameters act as indicator that measure the network performances. The weight or the importance given to these parameters could vary from a set of applications to another. The application is roughly divided in two categories real time application and non-real