

A Performance Comparison: CSMA/CD Vs Token Ring

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Abstract

This paper discusses a model to analyze and compare both CSMA/CD and Token Ring. The basic notion is that while a station contends for the channel in CSMA/CD, a station in a token ring waits for the token arrival. The average channel time wasted before a successful transmission in both cases can be computed probabilistically. Using this measure to characterize a system allows us to compute the system performance such as throughput and delay independently of the protocols. Furthermore, because the same conceptual framework is used in the analysis of both protocols, a comparison between them is thus easier and also more meaningful.

Keywords: CSMA/CD, Token Ring, System Performance.