Communication infrastructure for the parallel distributed video server SESAME

Abstract

The SMOOTH architecture is consisting of two parts. If a client wants to query a certain video, he first contacts the annotation database which returns the meta data for a couple of possible video sequences. This result is then sent to the video server which performs the query to send back the actual video data. This master thesis focus on the video server part of the project using a parallel distributed video server. Parallel is this context means that parts of the query are performed in parallel. Distributed means that the video data is striped over several nodes connected by a Fast Ethernet switch. Since the data is distributed, the video server is retrieving video data from the different nodes. The master thesis mainly focus on the description of the original video server which was first used for internal performance measurements and thus did not have that much functionality. Another point of discussion is the platform called "Parallel Multithreaded Machine" (PM2) which is used as basis for the video server. Finally, the own extensions to make the video server capable to serve video data including the necessary interfaces and an admission control is presented. In this context the common strategy to incorporate this architecture into the medical project at Krakow in Poland is discussed.

Keywords: video servers, parallel distributed computing, admission control, striping, quality of service, communication paradigms