

# Cryptographic Protocols

*Winter Semester 2005*

*2. Homework*

*8 November 2005*

## Exercise 1:

The *client certificate* and *certificate verify* messages are optional in the TLS handshake protocol. Show how this leads to an attack where the attacker pretends to be another client.

## Exercise 2:

Consider the following Ping-Pong protocol. Apply the analysis developed in the lecture on this protocol.

$$\begin{aligned} X \rightarrow Y: & \quad \{\{M\}_{K_Y}, X\}_{K_Y} \\ Y \rightarrow X: & \quad \{M\}_{K_X} \end{aligned}$$