



Bachelor-, Master- und Doktorandenseminar
des Instituts für Informatik

The Reconstruction of the Central Network of a Modern Bank using MPLS VPN Technology

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Nowadays most banks want to export their business all over the world. And most branches have their own network connection with the head office, which cost too much and have many management problems. In order to reduce the cost and upgrade the performance of the network of C bank's European branches, this thesis uses MPLS VPN and GRE over IPsec technology to design and reconstruct a new central network for all European branches of C bank. First of all this thesis introduces the old network structure of C bank's European branches, points out the existed problem of the old network structure, analyses the problem and shows the purpose of the design of the new network. Then this thesis describes the definition, advantage, function and types of VPN, and compares the GRE/IPsec VPN technology to find out the best solution - MPLS VPN with GRE over IPsec tunnel for the new network. Also this thesis introduces the common technology of VPN, which would be used in the new network. Next, this thesis shows the design of new network based on the technologies discussed before and the whole construction progress from choosing equipment and leased line to the network setting. Furthermore some of the project details such as the schedule and division of work are also appeared in this thesis. At last the test was run to examine the performance of the new network. This thesis uses ping to test the network delay, video meeting as the pressure test, and compares the cost, maintain, security changes and expansibility between the new and old network. The testing result concluded that the design of the new center network for European banks is totally successful.

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