

Design and Implementation of a Cross-Network Security Management System

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Abstract : In recent years, the emerging network worms and attacks have distributive characteristics, which can spread globally in a very short time. Security management crossing networks to co-defense network-wide attacks and improve the efficiency of security administration is urgently needed. We propose a hierarchical distributed network security management system (HD-NSMS), which can integrate security management across multiple networks. First, we describe the system in macrostructure and microstructure; then discuss three key problems when building HD-NSMS: device model, alert mechanism, and emergency response mechanism; lastly, we describe the implementation of HD-NSMS. The paper is valuable for implementing NSMS in that it derives from a practical network security management system (NSMS).

Keywords : network security management, device organization, emergency response, cross-network

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