

Vulnerabilities in Cisco Routers According to Requirements Defined in Pci Dss 2.0.

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Uncovering Network Perimeter Vulnerabilities in Cisco Routers According to Requirements Defined in Pci Dss 2.0

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Abstract

According to the Payment Card Industry (PCI), over 500 million records containing sensitive cardholder data have been breached since January 2005. Merchants accepting credit and debit cards are at the center of payment card transactions, making it crucial that standard security procedures and technologies are employed to thwart cardholder data theft. Numerous organizations have experienced embarrassing breaches, which lead to losses of credit card data, including Starbucks, California Pizza Kitchen, and TJX Companies. This paper examined an action research methodology to test the security of a network router and remediate all the vulnerabilities that caused it to fail the requirements of the Payment Card Industry Data Security Standards (PCI DSS). The basic functions of a router include packet forwarding, sharing routing information with adjacent routers, packet filtering, network address translation (NAT), and encrypting or decrypting packets. Since a router is traditionally installed at the perimeter of a network, it plays an important role in network security. By following the approach of this study, administrators should understand how employing a network vulnerability scanner to test a host can illuminate hidden security risks. This study also demonstrated how to use the results of the vulnerability scan to harden a host to ensure it complied with the Payment Card Industry's (PCI DSS) requirements.

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